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Drug and Cosmetic Industry

March 1957 Vol. 80 No. 3

Feature Articles

305 **1956 New Products Parade**
by Paul de Haen

306 **Procter & Gamble**

308 **Newer Nail Enamel Materials**
by William R. Keithler

310 **Oral Diabetic Drugs**

312 **Cosmetics Containing Sucrose Esters**
by Lloyd Osipow, Dorothea Marra, and Foster Dee Snell

314 **The Waving Efficiency of Cold Permanent Wave Lotion**
by Donald H. Kirby

316 **Dispersion of Pigments in Lipstick**
by Mary Jakovics

318 **Advertising to Doctors**
by F. P. Kilpatrick, Ph.D.

320 **Then and Now in Cosmetic Chemistry**

•

Packaging and Selling Section

325 **Self-Measuring Container: "Working" Package**

327 **Package Design Awards**

331 **Glass Coatings**
by Dr. W. R. Prindle

332 **Packaging and Selling**
by Frazer V. Sinclair

339 **News in Packaging**

•

Departments

297 **Keeping Posted**
by Thomas R. Farrell

340 **Patent Thoughts and Trends**
by Thomas Cifelli, Jr.

347 **News**

363 **Management Forum**
by Francis Chilson

371 **Advancing Therapy**
by Joseph Kalish, Ph.D.

375 **Compounder's Corner**
by Joseph Kalish, Ph.D.

380 **Perfumer's Shelf**
by Joseph Kalish, Ph.D.

383 **Skin Research**
by Joseph Kalish, Ph.D.

387 **Industry's Books**
by Harry G. Kelbly

389 **Trade Literature**

392 **Readers' Questions**
by Joseph Kalish, Ph.D.

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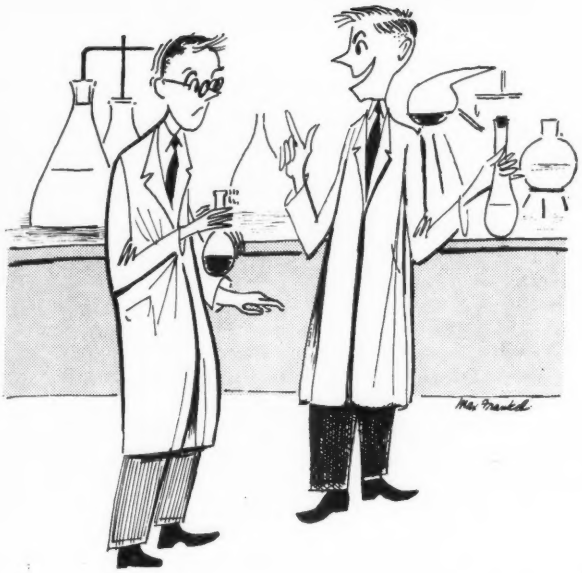

"The boss says all the antiseptic needs is a light floral bouquet."

Keeping Posted

Eli Lilly Facts

Eli Lilly and Company's sales of polio vaccine for 1956 totaled $32 million—$28.9 million in the U.S. and $3.1 million in other countries, compared with 1955 sales of $10.3 million—all in the U.S., according to Lilly President Eugene N. Beeseley. The number of doses sold by Lilly in 1956 was 46.5 million in the U.S., and 5 million in other countries. Of an increase of $40.2 million, or 28 per cent in total sales bringing the 1956 sales figure to $181,530,000, 54 per cent was due to increased sales of polio vaccine, and 46 per cent was due to increased sales of other products. Excluding polio vaccine sales from the 1956 and 1955 sales figures, Lilly had sales of $149.5 in 1956, and $131 in 1955. Net profits for 1956 totaled slightly more than $30 million, with per share earnings of $3.82, against $2.12 in 1955.

"Twenty-one of the last twenty-two months," Mr. Beeseley told the New York Society of Security Analysts last month, "have produced new sales records for that particular period. In April, 1955, we established a new all-time sales record for that month; and in May, 1955, we repeated. Each month since that time—with the exception of September, 1956—has set a new record."

In January, 1957, Lilly's sales volume was 27 per cent above January, 1956; and net earnings were 26 per cent above the same month of the previous year. If no polio vaccine had been sold in January 1957, sales would still have been higher than in January 1956 including the polio vaccine sales for that month, said Mr. Beeseley. Sales of polio vaccine are running ahead of the same time last year, and the company anticipates that the total number of doses used in 1957 will be near the 1956 total.

Discussing five factors for growth of the company, Mr. Beeseley first spoke of personnel. Seventy per cent of the entire personnel have more than five years service; eight per cent, more than 25 years; yet the median age is 37½ years. Of 191 people in key positions of department manager or higher at Indianapolis, one-half are under 45 years, and three-fourths under 55. The 26 top management positions are held by men averaging 48.7 years. All have worked their way up in the company. One out of every four employees, including factory personnel, has one or more degrees. The scientific staff includes 257 employees with master's or Ph.D. degrees and 32 doctors of medicine.

The second major asset is Lilly's broad scientific and development program. In the company's own research and development laboratories there are 976 employees. Expenditures for this work have doubled in the last four years. While sales increased 111 per cent during the years 1946-1956, research and development expense increased 410 per cent in the same period.

A third important factor, according to Mr. Beeseley, is the company's marketing policy and the caliber of its sales efforts. Lilly products are distributed in the U.S. exclusively through 290 wholesalers, who distribute them to some 50,000 drug stores and some 7,000 hospitals. This policy causes stock to be strategically located throughout the country without the necessity of maintaining an elaborate distribution organization at company expense. It also makes available important sales efforts on Lilly products by several thousand wholesale drug salesmen who call on drug stores and hospitals. These salesmen supplement the work of Lilly's own salesmen who spend about half their time calling on doctors.

The fourth factor for growth was a decision made three years ago as the result of turning up in research compounds with potential uses in a variety of fields other than that of human medicine. The decision was: While Lilly's major purpose will continue to be in the field of human medicine, the company would endeavor to utilize any findings of its research scientists which would be of value in other fields, so long as the operations are not incompatible with the company's major endeavor. As the result of this decision Lilly has, since 1954, been successfully marketing diethylstilbestrol as a cattle-growth stimulant. The company is at present working on plant-growth stimulants, plant and animal parasite control, and other farm products.

Perfumer's Notes

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Specialized chemical manufacturing is another field the company has entered with a $3.4 million addition to chemical manufacturing facilities now under construction.

The fifth factor of importance is the company's strong financial position. "This has enabled us to maintain very adequate working capital, to complete the liquidation in 1955 of long-term obligations, and to add to plant and equipment facilities."

Colgate Research in Rome

Colgate-Palmolive Company has undertaken an international, cooperative scientific program by the establishment of a new laboratory at the University of Rome devoted exclusively to the study of the relationship of chemical constitution to the properties of matter. Two university professors serve as consultants to the laboratory: Dr. Giordano Giacomello, Dean of the School of Pharmaceutical Chemistry at the University of Rome, and Dr. Alfonso M. Liquori, who will provide the scientific leadership and intellectual inspiration to the laboratory staff.

Four Italian scientists have been chosen to form the nucleus of this fundamental research group. They are Dr. Aldo Mele, Dr. Franca Ascoli Marchetti, Dr. Claudio Botre, and Dr. Vittorio Leotta Crescenzi. They will investigate problems of their own selection, employing appropriate avenues of exploration.

Technical liaison between the laboratory and Colgate-Palmolive's central Research and Development Department in Jersey City is the responsibility of Dr. Arthur L. Fox, director of research.

Minnesota and Proprietaries

In actions brought by the Minnesota Board of Pharmacy in 1955 for injunctions against non-drug outlets (Red Owl Stores—a food chain, and Groves-Kelco—a service wholesaler) selling Alka-Seltzer, Anacin, Bromo-Seltzer, Bufferin, Pepto-Bismol, Pinex, Murine, Castoria, Ex-Lax, Feen-A-Mint, Sal Hepatica, Vick's Va-Tro-Nol, Aspergum, Aspirin Compound Tablets, Lysol, 4-Way Cold Tablets, Bromo-Quinine, Vick's Cough Syrup. Judge Michael J. Dillon dismissed the complaints on February 8, saying "That there is no evidence that the sale by Red Owl Stores, Inc., or by anyone else, of any of the items concerned has endangered, is endangering, or may in the future endanger, the public health of the people of the State of Minnesota; and that there is no evidence that any of the items concerned has been, is, or may be, harmful to any individual."

As to the basic reason for the dismissal of the actions, James F. Hoge, counsel for the Proprietary Association, says:

"At the close of the State's case the defendants moved to dismiss on the ground that the State and the Pharmaceutical Association were not entitled to the extraordinary remedy of injunction as prayed for in their complaints; that the law of Minnesota makes a violation of any provision of the Pharmacy Act a misdemeanor subject to prosecution by the County Attorney; that that procedure had not been followed and that there was no showing on which the Court could hold that this procedure was inadequate. In a memorandum filed with the decision, Judge Michael J. Dillon, Judge of the District Court held that there had been no evidence of injury to public health, that there had been no showing as to the inadequacy of the procedure laid down in that statute, that indeed the evidence was that the procedure had not been tried and that 'in the absence of a showing of the use of the remedy prescribed by the Legislature, and in the absence of any facts or circumstances to bring this case within the exceptions to the general rule that equity will not enjoin criminal acts, the Court is compelled by the evidence to dismiss the complaints of the plaintiff and plaintiff-intervenor herein.' "

Britain and U. S. Drugs

Criticism of the sales promotion activities of American pharmaceutical manufacturers has become quite sharp in Britain. The basic cause of this is the fact that Britain's National Health Service has been running at a deficit of about L5,000,000 ($14,000,000). Recently the government introduced legislation requiring a patient to pay one shilling (14 cents) for each item on a prescription, while previously the charge was one shilling no matter how many items it contained. This was highly unpopular with the public, the medical profession, and some members of Parliament, by whom it was pointed out that the deficit could be eliminated by cutting down on the over-prescribing of proprietary drugs. Dr. Edith Summerskill, Socialist representative for Warrington, Lancashire, said, "I say the sick people of this country are being exploited by some of these American drug firms, and that the British taxpayer is having to bear the cost."

She charged in Parliament that one cause of the high drug bill is the high-pressure sales and advertising methods used by American drug firms. "In recent years," she told the House, "there has been an invasion of this country by American firms. Of the total value of proprietaries prescribed under the National Health Service, it is estimated that 65 per cent comes from American firms. These astute businessmen, realizing that the British government has given them a blank check to sell here as much as they can, at any price they choose to ask, and to take the profits out of the country in dollars, if they so wish, have poured all their resources into capturing this market."

Dr. Summerskill spoke of the enormous outside sales staffs, stating that one company has over 100 representatives. "These firms positively embarrass our general practitioners. Instead of patients coming in, the general practitioner is invaded by a high pressure salesman." She added that the samples they distribute are "an embarrassment in doctors' households. We don't know how to dispose of all these tablets."

"By high-pressure selling," she continued, "the British doctor is persuaded to use these preparations at enormous cost to the service and even to the detriment of the patient." In 1956 alone, she said, "magazines have been sent out to 22,000 doctors—every doctor in the National Health Service."

On the figures given in the debate, the total drug bill under the National Health plan in 1956 is estimated at L61,000,000 ($170,800,000). Of this, some 36 per cent, or L21,960,000 ($61,488), is for proprietary drugs, and of this latter amount, American proprietary drugs account for an estimated 65 per cent, or L14,-

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274,000 ($39,967,200). The total drug bill for 1957 is estimated at L64,000,000 ($179,200,000).

Ways of halting the American invasion are given as: tightening up of permits to U.S. companies to market in Britain; controls to restrict doctors' prescribing to drugs on which an agreed price has been reached between the government and the manufacturers; more information for doctors to enable them to assess the drug companies sales talks for what they are worth; and a stepping up of research into new drugs by British manufacturers.

"That half or two-thirds of the amount is collected by U. S. manufacturers is an assertion that can be only guesswork," says the Chemist and Druggist (London), "for such information is not to be found in any officially published figures, and none but official accountants have access to the statistics extractable from EC10's."

This journal continues: "Apart from the fact that a high proportion of the American drug manufacturers operating in this country were doing so before the National Health Service existed, the question must be asked how, if it is a National Health Service that induces a manufacturer to set up a factory in an overseas country, the setting up of British subsidiaries overseas is to be explained. Or do they not seek profits?"

As to the carrying on of more research by British companies, the journal says:

"But there the government's policy must be to some extent incriminated. British research efforts have been hampered by high taxation side by side with low prices for standard drugs. The combined result has been insufficient profit from which to pay for research costs. In the United States neither of these considerations has applied—at least to nothing like the same extent. In addition, the American industry has had, and has, the benefit of a domestic market several times as large as the British."

FTC Must Stop All

The Federal Trade Commission issued a cease and desist order against a manufacturer of electrical equipment who had classified his customers into four groups according to volume of purchases, each of which enjoyed a different schedule of discounts. Upon appeal to the U. S. Circuit Court, the court agreed with the Commission that the discount schedules were not justified under the Robinson-Patman Amendment to the Clayton Act. However, the defendant pleaded that if the order became effective against him and not against some sixteen competitors who were left free to continue this same type of discount schedule, he would suffer unduly and probably be put out of business. In answer to this, the court held that compliance with the order be stayed until the competitors were brought under the same kind of order.

Recipe for a Cold Cure

(From New England Journal of Medicine, Vol. 256, page 232)

Of all the vitamins best calculated to impress without harming, take vitamin C—perhaps 5 mg. or about the amount that is present in 10 ml. of the morning's glass of orange juice; this is certainly innocuous. Of all the analgesics best calculated to relieve symptoms in a bona fide manner, take aspirin—only be sure to make it alkaline so that it can be called buffered acetylsalicylic acid. This makes the final concoction a push-over for glib advertising, fast talk, double talk and animated cartoons showing alkaline pain killers elbowing their way through congested gastric rugae faster than the acid forms of the molecule, and swinging sledge hammers on the "pain centers" of the brain. There is much to be said for a few grains of phenacetin and some caffeine because the former has a synergistic effect when given with aspirin, and this is rather a profound idea to expand in a television commercial. Then, too, the synergistic argument is handy in case one ever gets into a hassle with a jury. Also in this event, everyone knows that caffeine "stimulates the circulation, and therefore it is logically just the right kind of knuckle ball to throw against congestion of any kind. Finally, bioflavonoids should be added until a rich yellow corn color is attained. After all, these substances are present in citrus fruits, and the precedent for adding them to cocktails was established years ago when some long forgotten genius twisted a lemon peel before he dropped it into the martini. It does the same thing to a cold cure. Moreover, bioflavonoids were isolated by a Nobel prize winner. This also makes for good advertising copy.

So much for the ingredients. Now mix and dispense in pink and blue capsules—the pink symbolizes robust health and the blue is a warning to bacteria (viruses are advised to stay away too). In the interests of razzle dazzle and hokum a full-page ad should be taken just before launching of the new product under a spreading headline reading "OPEN LETTER TO PHYSICIANS." It is always necessary to "educate" the doctors before they have a chance to sniff. However, if the doctors sniff they can be charged with spreading colds, and a second ad can be run under the headline, "DOCTOR, CURE THYSELF." Finally, to ensure success it is necessary to give the new product a high-sounding name like "Flavovits" or "STIVOVALF" (Flavovits spelt backwards), charge half a dollar for a penny's worth of ingredients and develop a successful slogan like Texas Guinan's greeting of the Prohibiton Era, "Hello, Sucker."

N. Y. C. and Tranquilizers

New York City, which has been ahead of the Food and Drug Administration in controlling distribution of some drug products, has just recently amended its Sanitary Code to require that tranquilizing drugs be sold only on prescriptions. While the amendment does not contain the provision that these prescriptions cannot be renewed, there is now demand for this provision, and it is indicated that such action might be taken at a later date.

The importance of New York City adopting this restriction is that the Food and Drug Administration is not able to act in cases of intrastate commerce. Also the New York City enforcement agents were not able to act in cases where tranquilizers are sold without prescriptions under the Federal restriction. It will be recalled that New York City was ahead of the FDA in restricting barbiturates to prescriptions,

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and also that the drug industry had a real rough time trying to get the City to follow the FDA in allowing the sale of certain antibiotic preparations over the counter. In view of the widespread abuse in the use of tranquilizers, especially in large cities, it is quite surprising that this action came so late. It is also surprising that the non-renewal provision was not adopted at the same time.

Carbide to Make Propellents

Another entrant into the fluorcarbons, or aerosol propellent field is announced for the latter half of 1958. Carbide and Carbon Chemicals Company, a division of Union Carbide and Carbon Company, is to have on stream by that time a plant capable of producing fifty million pounds of these chemicals per year. Stating that "The market for fluorcarbons as pressurizing components and has refrigerants has grown amazingly in the last twelve years," Carbide and Carbon Chemicals Company President D. B. Benedict said, "and with Carbide's planned unit the total U. S. capacity will exceed 300 million pounds per year."

Carbide's entrance into the field of fluorine chemistry is not limited to be limited to these products alone, although a separate sales organization is now being established to market these products as propellents and refrigerants, backed up by a customer service laboratory group to help with advice on formulations and engineering problems. For instance, in the field of polymer chemistry, the Bakelite Company Division of Union Carbide has already developed several fluorthene resins. Other possible fluorine chemicals could lead to new types of lubricants, highly effective agricultural chemicals, or more efficient surface active agents.

Replacing Older Drugs

A new approach to cutting down the number of prescription specialties which the retail pharmacist must carry in stock is a request that certain manufacturers drop their older products because of new ones now on the market which are claimed to be superior.

The American College of Apothecaries has written to Bristol Laboratories, The Upjohn Company, E. R. Squibb & Sons and Lederle Laboratories calling on them to remove from the market the older tetracycline products since the new phosphate forms are claimed to be superior in therapeutic activity. The A.C.A. says "It is felt by the pharmacists of the A.C.A. that the best available product should be dispensed on prescription and that if the tetracycline phosphate combination provides more rapid and higher blood levels then the public should benefit by the use of this product rather than by one which may not be quite as effective." The letter sent to the manufacturers reads as follows:

"We have read with interest the release of your new product (TETREX, PANMYCIN PHOSPHATE, SUMYCIN, ACHROMYCIN V) which is claimed to produce more effective and more rapid blood levels of tetracycline. Since unquestionably this appears to be a superior product we wonder whether you intend removing the other forms of tetracycline from the market.

"It would appear to us that this would be a logical action since I am certain that the Pharmaceutical industry and your company in particular would only want to have the physician use the best available product.

"Of course we in Pharmacy are primarily interested in that approach and through the American College of Apothecaries we are sending information to physicians informing them of the reported superiority of the phosphate type products."

Here, indeed, is a suggestion of a radical step. Such action on the part of the manufacturers of the phosphate product would mean that they are telling the physicians of the country just what type of a particular drug they must use. True enough in this instance, the drug base in all types of tetracycline products is the same, but the medical profession is very jealous of its prerogative to be the one who will decide what drugs will and will not be used by them. The members of the medical profession are not going to look with a kindly eye on any manufacturers who undertake to make these decisions for them.

In this particular instance, all manufacturers of tetracycline preparations do not have the phosphate preparation as there is a patent position involved. Furthermore, in the short space of time that the new products have been on the market, it seems quite improbable that the medical profession as a whole has sufficient experience with the new products to call for the complete withdrawl by the phosphate manufacturers of the older types. It takes time and experience on the part of the medical profession to learn what the results of widespread use of any new type of product will be. Granting the claims of the phosphate products, there may be many doctors who want both types at hand for use in different conditions.

So long as the members of the medical profession are free to prescribe what they want—and let us hope this right will never be abridged—there must be available to them all the different drug products which they want and it is up to the pharmacists of the country to have them on hand. And as long as a demand from the medical profession exists for specific products, the manufacturers will supply them. The only reason a manufacturer discontinues to supply a product is that demand becomes so small that its production is uneconomic. And this occurs only because the medical profession has abandoned it. Neither the manufacturers nor the pharmacists can dictate what drugs will be prescribed—only the medical profession can do that.

Best Managed Companies

Winners in this industry of the American Institute of Management rating for Excellent Management for 1956 are: Abbott Laboratories, American Cyanamid Company, Bristol-Myers Company, Colgate-Palmolive Company, The Gillette Company, Olin Mathieson Chemical Corporation, Parke, Davis & Company, Chas. Pfizer & Co., The Procter & Gamble Company, G. D. Searle & Co., Smith, Kline & French Laboratories, and Sterling Drug, Inc.

Companies are rated on every function of management and not just profits. There are ten basic categories of management performance used. An Audit Committee

makes the final ratings, using a point schedule which requires 7,500 of a possible 10,000 points for Excellence. The companies are studied from the point of view of their economic justification as well as their treatment of shareowners, customers, and the public. Their capital structure as well as the customary figures are closely scrutinized, but the greatest weight is given to the evaluation of the executive team.

To Decertify More Colors

The Food and Drug Administration has issued a proposed order removing from the list of FD&C Yellow No. 1, No. 2, No. 3, and No. 4. These colors would not be permitted in foods or in drugs. Nor would their use be permitted in cosmetics which come in contact with the mucous membrane, such as in the case of lipstick, mouth wash, and dentifrices. The new designation of these colors would be EXT. D&C Yellow No. 7, No. 8, No. 9, and No. 10.

Fair Trade at Wholesale

In commenting on the status of fair trade at the wholesale level in light of the U. S. Supreme Court decision in the McKesson & Robbins case, George M. Chapman, of the law firm of Rogers, Hoge & Hills, said:

"If a manufacturer sells directly to retailers as well as through wholesalers, it is our opinion that the court would reach the conclusion that in selling to retailers the manufacturer has assumed the function of a wholesaler and thus its contracts with wholesalers are in the category of contracts between wholesalers and wholesalers and are therefore illegal. We are of the further opinion that manufacturers who sell directly to retailers as well as through wholesalers should give careful consideration to cancelling their fair trade contracts with wholesalers because of the possibility that they may be questioned by the Antitrust Division of the Justice Department. This has been done by a number of manufacturers, and it is our understanding in the trade that for all practical purposes, there is little or no fair trade in the drug business at the wholesale level."

Looking at Colgate

"Colgate's heavy detergent FAB is in third place in national acceptance with Procter & Gamble's two products TIDE and CHEER in first and second respectively," said Harris, Upham & Co., last month in reviewing Colgate-Palmolive Company. "Colgate has always been particularly strong in the toiletries field. It has the number one position in the toothpaste market and retained this position throughout the chlorophyll challenge, initiated by Lever Brothers Chlorodent. Several years ago Procter & Gamble gained a national position in toothpaste through a saturation advertising campaign on Gleem. Last year Procter & Gamble pushed its second wedge into the toothpaste field with Crest, a fluorinated dentifrice. Colgate shortly thereafter presented a competitive product called Brisk with a large national advertising appropriation. The fluorinated dentifrices seemed to have levelled off at about 18 per cent of the national market. The net result from Colgate's standpoint has been a loss of market position in the toothpaste field and a heavy advertising and marketing charge to 1956 earnings.

"Another factor which influenced Colgate's domestic earnings adversely was the advertising and marketing efforts to establish AD as its entry in the low sudsing detergent field. This has not been an unqualified success up to date. The third factor which added to 1956 expenses was the marketing cost in promoting VEL pink liquid detergent with a national advertising campaign. This is more promising. . . . It appears at this time that no important products are far enough into the test stage to add additional competitive products for Colgate during 1957. It may be therefore, that 1957 will be a year of consolidation for the company with its established products."

The review also notes: "There are indications that the management will be less concerned with the marketing activities of its principal competitor and more aware of the benefits of increasing sales growth in a more orderly manner."

Heart Drug Study

The American Hospital Association has received a grant of $575,000 from the U. S. Public Service to conduct a study of drugs for the treatment of heart disease. An evaluation of anti-hypertensive drugs will be the first phase of the study. The survey will be directed by Alan E. Treloar, Ph.D., an economist, and advisory committees of physicians will cooperate. Apparently, specific drugs will be evaluated as to their effectiveness, and the findings will be publicized. It is believed that the American Hospital Association will construct a large building in Chicago, which will include space in it to carry out drug evaluation studies.

Two More Ciba Publications

Ciba Pharmaceutical Products has started publication of two new monthly journals for distribution to doctors. "State of Mind" and "Pulse & Pressure" are both 16-page magazine-style publications. State of Mind is a monthly review of emotional and psychiatric problems, and Pulse & Pressure reports each month on current views concerning hypertension and related cardiovascular disorders.

Other publications which Ciba distributes to the doctor are the biweekly newspaper, Medical News; The Ciba Clinical Symposia; and The Ciba Collection of Medical Illustrations. The addition of the two new monthly publications brings Ciba's budget for these books to well over one million dollars annually.

Lilly Employees European Jaunt

An 11,000-mile, three-week European trip that would ordinarily cost $1,400, is being offered fifty-nine members of Eli Lilly and Company's Employee Activities Group and their immediate families for $871 a person, on a first-come, first-served basis. Most of the tour will be made in a chartered TWA Constellation, but travel also will be by bus, train, gondola, excursion boat, cog-wheel railway, and river steamer.

1956 NEW PRODUCTS PARADE

by Paul de Haen
CONSULTANT TO THE PHARMACEUTICAL INDUSTRY
AND ALLIED PROFESSIONS

It seems as if the American pharmaceutical industry has made up its mind to introduce about four hundred new products each year. In 1955, 403 and in 1956, 401 new products were made available for distribution. It is quite fascinating to watch this parade of introductions in the course of a year and to speculate where it is going to lead. What patients are going to benefit, what diseases are going to diminish in incidence, what direction is basic research taking, and which of these investigations may lead to applied research and usable products?

Statistical data on the introduction of new pharmaceutical products are now available for a period of nine years and are given in the attached table. The total number of products introduced during this nine year period is 3,286 to which should be added 1,047 new dosage forms of previously introduced products so that the distributing industry has had to handle 4,333 new items. (This figure does not include different strengths of a product, that is, a preparation supplied in tablets of ½ mg. and 1 mg. is counted as one item). A fair percentage of these new products have of course disappeared from the market and have been replaced by more recent introductions.

It is a tribute to the industry's research departments that more single chemical entities have been introduced in 1956 than in the previous two years. What are the most important items of this group? Since this is the age of anxiety one should probably mention the ataraxics and tranquilizers first. Last year's new introductions indicate that the industry has been successful in developing products with a different intensity of action: Sparine (promazine, Wyeth) being used in the more disturbed patient, whereas Compazine (prochlorperazine, S.K.F.) and Atarax (hydroxyzine, Roerig) both developed in Europe, produce an intermediate type of action; and the most recent one, Nostyn (ethylcrotonylurea, Ames) is described as a calmative and suggested for the milder forms of everyday disturbances. Schering's Neraval (methitural) developed by E. Merck, Darmstadt, is the latest addition to intravenous anesthetics.

In the hormone field Nilevar (Searle) a protein and tissue builder, and Releasin (relaxin, Warner-Chilcott) indicated for the prevention of stillbirth, and Cytomel (triiodothyronine, S.K.F.) for the treatment of metabolic insufficiency, represent entirely new developments, and the use of these compounds by the medical

PHARMACEUTICAL PRODUCTS INTRODUCED
1948 - 1956

	Number of Firms	Total New Products	New Single Chemicals	Duplicate Single Products	Compounded Products	New Dosage Forms
1948	80	399	36	142	221	102
1949	84	389	40	147	202	170
1950	100	326	28	100	198	118
1951	86	321	35	74	212	120
1952	89	314	35	77	202	170
1953	107	353	48	79	226	97
1954	101	380	38	87	255	108
1955	124	403	31	90	282	96
1956	126	401	42	79	280	66
		3286	333	875	2078	1047
New Dosage Forms		1047				
		4333				

New Single Chemicals—indicates products which are new single chemical entities not previously known, and developed by one manufacturer.
Duplicate Single Products—products such as reserpine, dioctyl sodium sulfosuccinate which are put out by various manufacturers.
Compounded Products—any product having more than one active ingredient.
New Dosage Form—if a product has originally been marketed in tablets and is now offered in ampuls, suppositories, etc., the latter are considered new dosage forms.

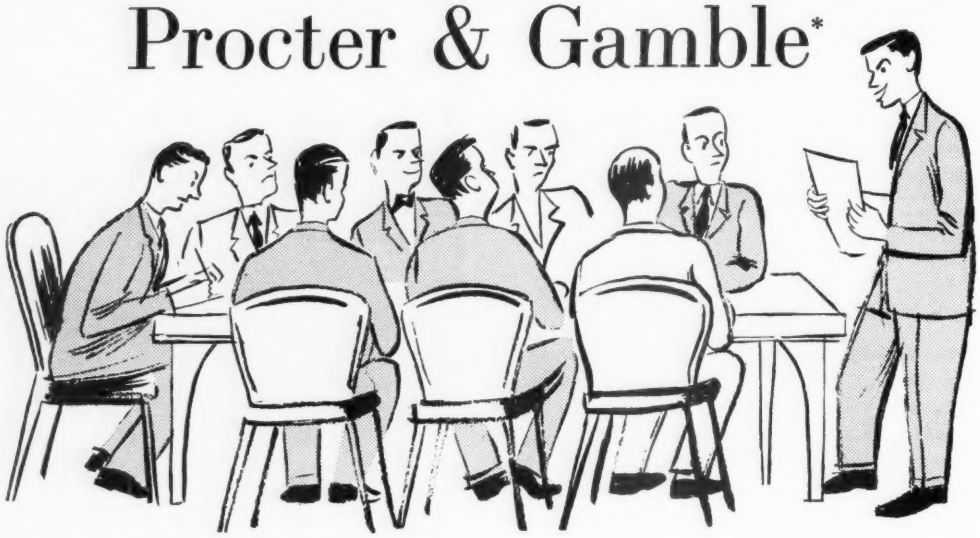
profession should be watched with interest. Searle has also come forward with another non-mercurial diuretic under the name of Rolicton (amino isometradine). Two interesting diagnostic agents for urine sugar determination have been introduced by Ames and Lilly under the respective names of Clinistix and Testape. Both are based on the use of glucose oxidase. This is the first time that an enzyme reaction has been used for urine sugar detection. A group of twelve new products contain dioctyl sodium sulfosuccinate, either alone or in combination with other laxative agents. Acceptance of these products by the profession indicates that there was room for improvement in the laxative field.

Ever since penicillin made its first appearance, new antibiotics have been detected. The present trend seems to be toward those with either a more specific or a more comprehensive action. Seromycin (cycloserine, Lilly) for the treatment of tuberculosis belongs to the former group and Matromycin (oleandomycin, Pfizer) to the latter. A number of new products combinding several antibiotic agents have been introduced. Although medical opinion is still divided regarding the rationale of the use of these compounded products, further clinical investigation should clarify this situation.

Ecolid (chlorisondamine, Ciba), Moderil (rescinnamine, Pfizer), and Inversine (mecamylamine,

(*Continued on page 360*)

Procter & Gamble*



Management has made Procter & Gamble a leader and a pioneer in the expansion of its chosen markets beyond mere population growth. It has undertaken extensive advertising and educational campaigns to increase public awareness of the need for cleanliness, thereby benefiting not only the company but all other suppliers in the cleansing agent industry. Its early market analyses, showing that 85 per cent of its retail goods were bought and taken home by women, contributed substantially to new forms of advertising and new approaches to the feminine customer, which influenced other industries. The P & G approach to women customers through the well-known radio "soap opera" is identified with the company's name. To a lesser extent the company has undertaken similar development in other lines. No P & G products are for men only.

Management displayed alertness, foresight, initiative, and flexibility beyond the average. The evidence lies in Procter & Gamble's growth into the largest American company in the cleansing agent industry. This was not the result of age alone. The opportunities it seized were open to most of its competitors. The company was kept in a position to adopt new purposes, modify old ones, improve the means of achieving purposes, and take advantage of opportunities for acquiring other properties or applying new technology.

In short, Procter & Gamble management selected a field with important and well defined functions, chose purposes wisely within that field, kept its purposes and methods carefully in line with changing conditions, followed sound strategy in cultivating its chosen field, and gave good service.

*Abstracted from Special Audit No. 148 by the American Institute of Management

In 1952 that Procter & Gamble's introduction of Tide, the first heavy-duty all-purpose synthetic detergent, inaugurated a major shift in household cleansing agents. National sales of detergents increased eightfold in the five years 1946-1950, while sales of packaged soap remained static, paralleling only the growth in population. That shift continued in the five years 1951-1955, with detergent sales passing two billion pounds a year while demand for soap decreased very substantially in the household washing field. (Soap still heavily dominates the toilet and bath field, though P & G and other members of the industry are working on bar detergents.) Despite the challenge as other companies entered the field, P & G management has kept the company's lead. In 1956 P & G was the largest single distributor of household detergents, commanding somewhat more than half the total market.

Management has continued to diversify in its chosen field. Peanut butter is a logical addition to the food line because of its relation to the edible oil market. As the new trend to prepared cake mixes has altered the market for shortening, Procter & Gamble has entered this field through acquisitions. The detergent line logically extended into shampoos, a toiletry; and the addition of home permanents and dentifrices was a logical step to reach the toilet goods market more effectively. Expansion of the market for cellulose pulp beyond what the cotton lint byproduct of oil crushing could supply, coupled with improvements in technology, made it logical to expand the cellulose business into the use of wood as a source; and the company has acquired 760,000 acres of Florida pine land and built a new plant for this purpose.

As of now, about two-thirds of the company's gross income is derived from soaps and detergents, and most

of the balance from shortening and vegetable oils. *Toilet goods sales are still a relatively small share of the total.*

Service to consumers continue to advance. Procter & Gamble is now in the billion dollar annual sales category. Its 26,000 employees manufacture an expanding line of products sold industrially and through grocery, drug, department, and variety stores—brands one or more of which can be found in almost any household in America.

Only excellent management has put this company where it is. A top rating for Procter & Gamble's choice of economic functions and for its performance of them is justified.

Corporate Structure

Corporate structure includes not only the formal legal patterns, but also the resolution of the general purposes and functions of the organization into workable units and subdivisions, the allocation of responsibility, authority, and means, the organization of control and supervision, the patterns of communication, and the appropriateness of structure to needs and actual operations. In all of these matters Procter & Gamble is outstanding.

P & G's world-wide business is largely conducted through thirty-three wholly owned subsidiaries. Each has its own special functions, based either on marketing, manufacturing, maintenance of particular brands, or a combination of these.

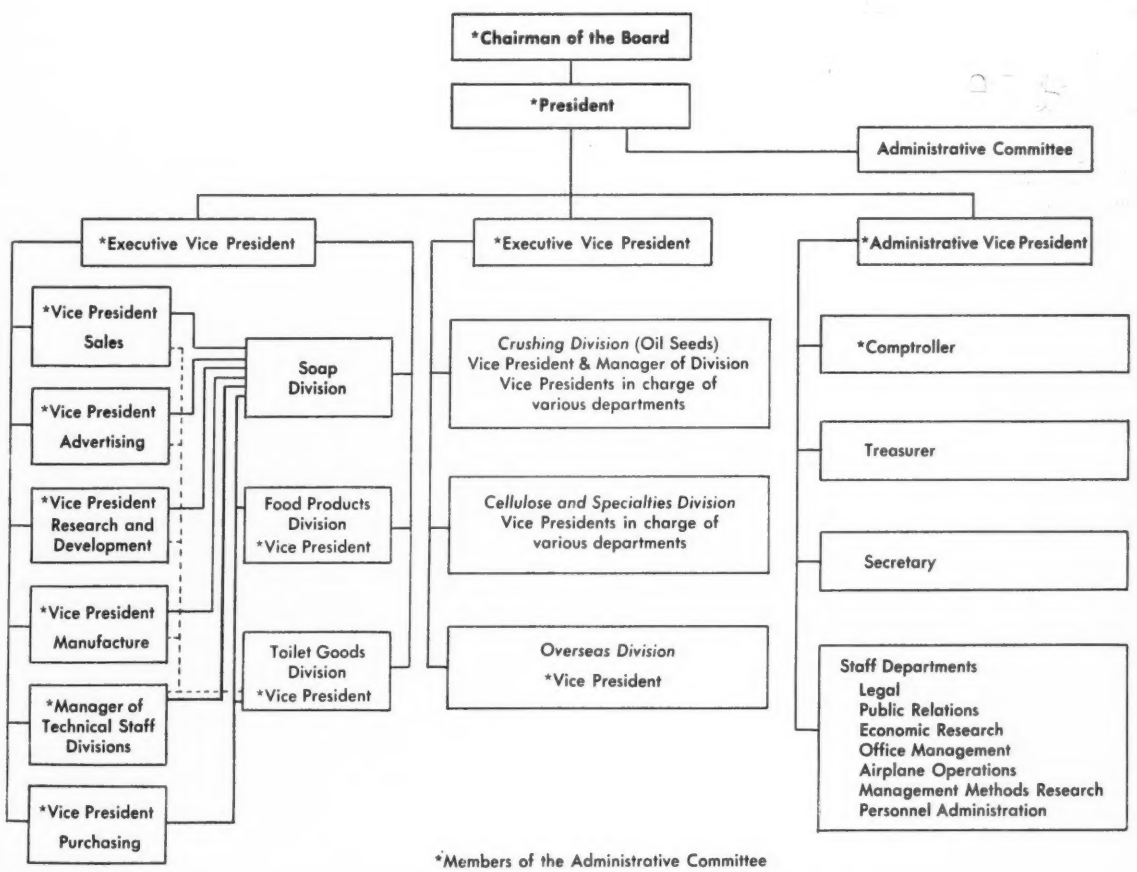
The active operating head of the entire business is the president of the parent company. He reports to the board of directors, presided over by the chairman, who is actively on location in the executive offices and is both able and available in advisory capacity. The chairman attends the company's weekly executive meetings, but makes no effort to dominate or interfere.

The board meets monthly. The executive committee of the board meets on interim call, and usually not more than once or twice annual—evidence of efficient planning.

The administrative committee, which is the potent body, consists of fifteen members. It meets weekly. Its resolutions are distributed to the heads of departments to which they apply. In addition, there are departmental and staff committees in such areas as sales and manufacture that report to management on specific projects. Minutes are kept for established, regularly functioning committees.

(*Continued on page 360*)

TABLE 2
ORGANIZATION CHART



*Members of the Administrative Committee

Newer Nail Enamel Materials

by William R. Keithler
COSMETIC CONSULTANT

The function of a nail enamel is to form a glossy, protective film over the exposed portion of the nail. Usually this film is brightly colored by the use of certified dyes and pigments. In the past, the basic film forming ingredient has been nitrocellulose of about ½ second viscosity. However, the nitrocellulose is not suitable if used alone, as the dried film becomes extremely brittle and lacks sufficient gloss. Consequently, a plasticizer is needed.

The plasticizers used have a direct bearing upon the characteristics of the dried film. Some of the more common plasticizers used to impart flexibility to the film and assist in proper adhesion are dibutyl phthalate, triethyl citrate, dimethyl phthalate, camphor, tricresyl phosphate, dioctyl adipate, and tetrahydrofurfuryl oleate. These plasticizers, beside imparting flexibility, also affect such characteristics as rate of drying, color retention, in some cases color and gloss.

The author has carried out extensive research with respect to an evaluation of newer type plasticizers, and some of these appear to be superior to those now used in the industry. The plasticizers tested were examined and evaluated on the basis of flexibility before and after weathering in a weatherometer, effect if any, on color and gloss of the dried film. Of those materials examined, chlorinated biphenyls proved superior both to those mentioned earlier and some of the other newer plasticizers evaluated. Several chlorinated biphenyls possessing different molecular weights were examined and found to impart more or less flexibility, depending upon molecular weight. Arochlor 5460*, a tough, hard, solid resin type plasticizer appeared to increase gloss and adhesion, but confers a comparatively low degree of flexibility. On the other hand, the lower molecular weight Arochlor 1254 improved flexibility but showed little effect with respect to color, or gloss and adhesion. A combination of the two resinous plasticizers, arochlor 5460 and Arochlor 1254 produced unique qualities, in that flexibility, gloss, color retention, and adhesion were greatly improved as compared to a standard polish using tricresyl phosphate and dioctyl adipate as the primary and secondary plasticizers. As a general rule, resinous plasticizers such as polyesters, polyisobutylenes, and chlorinated biphenyls proved superior to those materials now in use. The following tabulation will indicate relative values of the various plasticizers tested and those now in use:

No. 1. Mixture of high molecular weight and low molecular weight chlorinated biphenyls, rating 10
No. 2. Polyisobutylenes, rating 9
No. 3. Mixture of 50 per cent chlorinated biphenyls, low molecular weight and cumerone indene resin (AD21), rating 9
No. 4. Resinous polyester plasticizers, rating 8
No. 5. Tricresyl phosphate, rating 7

*Monsanto Chemical Company

No. 6. Dibutyl phthalate, rating 7
No. 7. Dioctyl phthalate, rating 6
No. 8. Camphor, rating 4.

The above ratings are based upon a consideration of various properties, including adhesion, gloss, color retention, weatherability, and flexibility. A rating of 10 is excellent.

Probably the most important part of a nail enamel is the resin used to improve lustre or gloss and adhesion. Some manufacturers are incorporating some of the newer synthetic resins, or very highly modified resins, such as alkyds, sulfonamid-formaldehyde, polystyrene, and polyvinyl resins in their products. Although a great many still contain dammar type resins and natural gums. Until quite recently the choice of a modifying resin was governed by its compatibility with nitrocellulose, since this material was basic in the formulation. However, with the advent of increased knowledge of synthetic resins, it is possible to market nail enamels which contain little or no nitrocellulose. Indeed, the following information should prove invaluable to the manufacturer who is continuing to produce nitrocellulose formulations.

Of course, a very important phase of enamel manufacture is the inclusion of solvents which are the mediums in which resins, colors, and plasticizers can be ground and finally applied. Fortunately, the same type solvents, that is esters, act as good solvents for a great majority of the newer synthetic resins. In general, aromatic solvents should be avoided, since many persons are affected by fumes from such compounds as xylol or toluol. In many cases, it is necessary to add a somewhat better solvent than the esters, but these should be used in the minimum possible quantities. Experimentation is necessary to ascertain which solvent system should be used to afford the proper drying time, ease of application, good brushing properties, and the highest gloss.

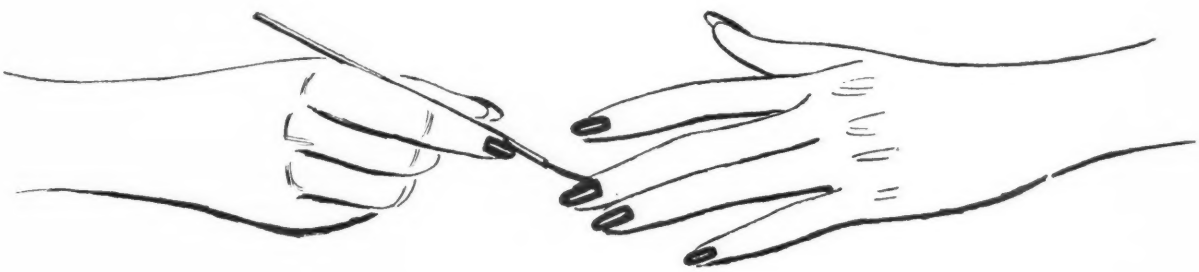
Since colors would normally remain the same in the newer products as in older products, there is no necessity in elaborating upon these materials at this point. An extensive article by the author appeared in *Drug and Cosmetic Industry* some time ago on the manufacture of manicure preparations. Possible resins for use either as base resins or modifying resins in nail enamels would comprise the following list: alkyds, although these are somewhat slow drying generally; polystyrene; vinylacetate; vinylacetate-chloride copolymers; acrylic; cumerone indene; chlorinated rubber; and a few single package epoxy materials (epoxy esters). The choice of a specific resin, of course, would be dependent upon the desired characteristics in the dried, applied film. The following formulations are characteristic of those examined against current products available in department stores at this time.

No. 1

	Per Cent
Acryloid B66*	12.0
Arochlor 5460	8.8
Arochlor 1254	13.5
Ethyl acetate	31.5
Butyl acetate	30.0
Ethanol	4.9
Colors	0.4

No. 2

	Per Cent
Polyvinylchloride acetate copolymer	10.7
Polymethylmethacrylate	7.0
Methylethylketone	21.5
Sorbitol	20.0



Arochlor 5460	15.0
Tricresyl phosphate	8.0
Ethyl acetate	22.3
Colors	0.5

No. 3
Chlorinated Rubber Type

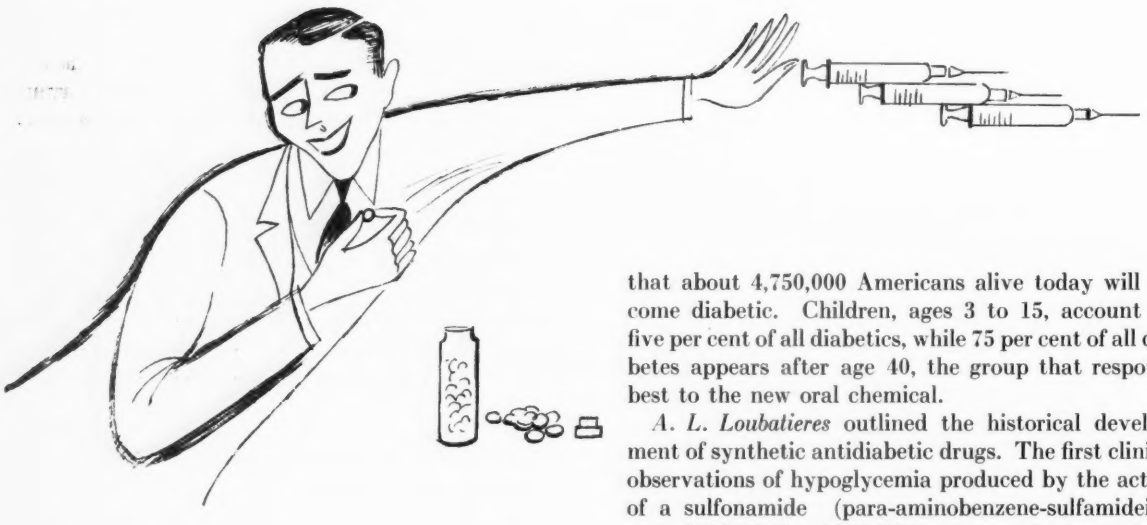
	Per Cent
Hercules Parlon 300 Plus	10.0
Acryloid B66	8.8
Arochlor 5460	7.5
Arochlor 1254	8.0
Ethyl acetate	31.5
Xylol	30.0
Acetone	4.9
Colors	0.4

The three foregoing basic formulations were tested against an original formulation from "The Formulation of Cosmetics and Cosmetic Specialties," page 443, formula No. 1 which has the following composition:

(*Continued on page 395*)

* Rohm and Haas Company

ORAL



A new chemical which can lower the level of blood sugar in diabetics when taken by mouth has been reported to the New York Academy of Sciences. The chemical, distant relative of the sulfa drugs, has been found to eliminate the need for insulin injections in a large percentage of adult diabetics. Therefore, it has been hailed as "potentially the greatest find in diabetic research in the last thirty-six years," namely, since the discovery of insulin in 1921.

The drug, known as tolbutamide, was discovered in Germany in 1954 and has been under clinical trial in the United States since November, 1955. Though it is related to the sulfa drugs, it is not anti-bacterial, and does not produce the usual sulfa side effects. It is being produced in this country by the Upjohn Company of Kalamazoo, Mich., under the trade name Orinase.

The mode of action of tolbutamide and related drugs is as much of a mystery as is the mode of action of insulin. The evidence so far available, however, suggests that these substances may produce their effects in one or more of the following possible ways:

By decreasing the secretion of an insulin-destroying substance named insulinase; by increasing the rate of formation and/or liberation of insulin from the pancreas; by intensifying the action of insulin produced in the body in amounts otherwise inadequate; by depressing one or more of the processes whereby sugar stored in the liver is released into the blood stream.

According to available statistics, there are about 1,600,000 known diabetics in the United States, with some 65,000 new cases found each year. It is estimated that about 4,750,000 Americans alive today will become diabetic. Children, ages 3 to 15, account for five per cent of all diabetics, while 75 per cent of all diabetes appears after age 40, the group that responds best to the new oral chemical.

A. L. Loubatieres outlined the historical development of synthetic antidiabetic drugs. The first clinical observations of hypoglycemia produced by the action of a sulfonamide (para-aminobenzene-sulfamideisopropyl-thiodizole; 2254 RP) were made in typhoid patients by Janbon (1942).

Loubatieres (1942-1946) showed experimentally that 2254 RP produces hypoglycemia in normal dogs but not in depancreatized dogs. *He offered the hypothesis that the pancreas plays an essential role in causing hypoglycemia and that 2254 RP stimulated the secretion of insulin.* 2254 RP itself did not show "insulin-like" action but stimulated hepatic glycogen formation in the normal animal. Loubatieres (1946) proposed using 2254 RP to estimate the insulin-producing capacities of the pancreas and for the treatment of forms of diabetes caused by the inadequacy of the insulin-secreting processes.

Bovet and Dubost (1942-1944), like Loubatieres (1942-1946), studied the relationship between chemical structure and activity. It was shown that the side chain of the thiodiazole molecule plays an important role in the hypoglycemia action. Such side chains have been classified as follows in order of decreasing activity: tertiary butyl derivatives, isobutyl, butyl, amyl, isoamyl, propyl and isopropyl.

The clinical results of BZ 55 described by Franke and Fuchs (October 1955) are identical with those described by Loubatieres (November 1955) for 2254 RP.

B. A. Houssay et al. discussed the action of hypoglycemic sulfonamides in animals.

Carbutamide, Tolbutamide, 2254 RP and 2259 RP hypoglycemia in dogs, rats and toads.

In dogs or toads the hypoglycemic action was similar in hypophysectomized and normal animals; in hypophysectomized rats the action was more prolonged.

The adrenalectomized animals of the three species had a very marked sensitiveness to the hypoglycemic

Diabetic Drugs

and toxic action of these drugs.

In depancreatized dogs, toads and in hypophysectomized-depancreatized dogs the injection of the hypoglycemic sulphonyl compounds did not decrease the blood sugar level. A decrease was observed in two out of three depancreatized dogs injected with 2259 RP.

Insulin stimulates glucose consumption in the muscle tissues according to *A. N. Wick*. On the other hand the administration of Tolbutamide to eviscerated animals does not accelerate glucose utilization or glucose oxidation. It has been concluded from this that Tolbutamide does not have a direct effect on the extrahepatic tissues. Some workers have suggested that Tolbutamide may lower the blood sugar in intact animals by inhibiting the destruction of insulin.

The investigations reported by *H. Elrick and R. Purnell* were designed to compare the *in vivo* effects of a sulfonylurea compound with insulin in an effort to clarify the mode of action of the new hypoglycemic agents.

The effect of tolbutamide on the peripheral utilization of administered glucose was studied in acute experiments on 13 non-diabetic and six diabetic patients, and in long term experiments on seven diabetic patients. The results showed no effect on glucose utilization by tolbutamide under experimental conditions which demonstrated the enhancing action of insulin.

During the course of experiments in the dog, a decreased BSP clearance by the liver was noted following intravenous tolbutamide. The striking and consistent nature of this finding suggested that liver function is impaired by tolbutamide. Accordingly, similar studies were done in twelve normal men, six patients with diabetes, and eight with cirrhosis. The results indicate that tolbutamide does not influence the clearance of BSP in the human even in the presence of cirrhosis. The lack of agreement between dog and human data may be due to a species difference.

The results of the present studies show that in some respects tolbutamide simulates insulin action and in other respects it does not. They indicate that tolbutamide action is complex and that observations made in one species cannot be assumed to be valid in another.

According to *F. C. Goelz*, it may be inferred that tolbutamide has a direct stimulating action on pancreatic beta cells as part of its initial action, but that this effect may not be enough to explain its chronic action.

Tolbutamide induced hypoglycemia is reported to be unaccompanied by the rises in blood pyruvate and lactate which may occur after insulin. This difference has been interpreted to indicate difference mechanisms of hypoglycemic action. According to *Max Miller et al.*, reported differences in blood pyruvate and lactate changes following tolbutamide and insulin may, therefore, reflect primarily differences in rate of blood sugar depression rather than differences in mechanism of action.

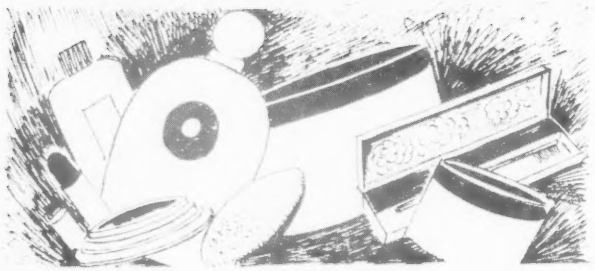
Studies have been carried out in an attempt to characterize the sulfonylurea-induced hypoglycemia as the result of either increased peripheral glucose utilization or decreased hepatic glucose release. The observed changes in glucose tolerance, serum phosphate, blood pyruvate, blood lactate, nitrogen balance and respiratory quotient do not suggest a significant increase in peripheral glucose utilization. Preliminary measurements of insulin-like activity in plasma do not suggest increased insulin secretion in response to tolbutamide.

The decreased conversion rate of fructose to glucose concurrent with sulfonylurea-induced hypoglycemia suggests a decreased rate of hepatic glucose release or synthesis. The studies have been extended by *A. E. Renold et al.* to include both acute and prolonged tolbutamide administration. These observations are presently interpreted as providing clear-cut evidence for an effect of the sulfonylureas on hepatic glucose release or synthesis.

In order to more adequately evaluate the mode of action of the arylsulfonylureas in man there has been a need for acute studies which would closely parallel in time and degree of effect the blood glucose changes produced by acute insulin administration. Studies were conducted by *F. F. Frawley and S. Segal* utilizing a variety glucose loads before and after giving tolbutamide. The changes in blood glucose mimicked rather closely those produced by insulin but the other parameters of glucose metabolism (pyruvate, phosphorus, potassium) revealed some differences. The pentoses (D-xylose and L-arabinose) were infused intravenously and the rate of disappearance measured; insulin increased the disappearance rate of the pentose three-fold while tolbutamide showed no effect.

Diabetic patients were divided into four groups: 1. "Obese" diabetes ("adult," non-ketotic, non-catabolic); 2. "Thin" diabetes ("Juvenile," ketotic, catabolic); 3. "Steroid" diabetes (due to hyper-function of the pituitary-adrenal system); 4. "Pancreatic" diabetes (due to destruction of the pancreas). In the obese group and in the steroid group, Orinase uniformly produced a decrease in the level of glucose in the blood; in the thin group and in the pancreatic group it did not. This finding suggested that orinase stimulates the production or release of insulin by

(Continued on page 405)



COSMETICS
Containing Sucrose Esters

by Lloyd Osipow, Dorothea Marra, and Foster Dee Snell, FOSTER D. SNELL, INC., NEW YORK

Several papers have appeared during 1956 concerning the development of sucrose esters of fatty acids, a new class of nonionic emulsifiers.[2,3,4] Seven organizations in the United States and abroad have already been licensed to manufacture these sugar esters. At least two of the United States firms will be in limited commercial production early in 1957.

Consequently, it is timely to inquire as to the usefulness of the sugar esters in cosmetic preparations. The sugar esters are edible, non-irritating, solid nonionic surfactants. They differ from other water-soluble nonionic emulsifiers in that the sucrose moiety is responsible for water-solubility rather than a polyoxyethylene group. This results in certain essential differences. One of the most apparent is that the sucrose esters do not exhibit a cloud point. The sugar esters do not have the bitter taste characteristic of the other nonionics. Actually, they are quite bland. They appear to be completely free from any tendency to cause irritation or smarting.

It has recently been reported that the polyoxyethylene derived nonionics are less compatible with biologically active materials than had previously been assumed. Thus, phenol and such widely used cosmetic preservatives as the esters of *p*-hydroxybenzoic acid are inactivated by these nonionics.[1] The usefulness of polyoxyethylene derivatives as idodophors is another example of their complexing action. In addition, the increasing tendency to include vitamins, hormones and other active materials in cosmetic compositions requires the availability of emulsifying agents which do not inactivate these expensive materials.

While the sugar esters have not been evaluated with respect to their compatibility with cosmetic preservatives and other biologically-active materials, it can certainly be expected that the sucrose moiety will in many cases provide a greater degree of compatibility than the polyoxyethylene grouping. Thus, the availability of the sugar esters provides the cosmetic chemist with a new series of emulsifiers that will permit him to develop products with improved stability and performance qualities.

The sucrose esters are extremely good emulsifying agents. The monoesters are hydrophilic emulsifiers and they should be used in combination with more hydrophobic emulsifiers such as glyceryl monostearate, the Spans or sucrose diesters. The latter will also become commercially available shortly.

The choice of sucrose monoester to be employed as emulsifier depends upon the properties desired in the cosmetic product. As the number of carbon atoms in the fatty acid portion of the sucrose monoester is increased from 12 to 18, the bodying action of the emulsifier increases, while hygroscopicity and foaming action decrease. Thus, sucrose monolaurate gives a clear solution of low viscosity even at 30 per cent concentration in water. It is a moderately good foamer. The laurate is so hygroscopic that the dry powder will turn to a paste while stored in a tightly sealed jar. This property may be useful in a moisture cream. Sucrose monostearate, on the other hand, gives gelatinous solutions at one per cent concentration. At a 20 per cent level in water, sucrose monostearate is a gel at room temperature, but fluid at elevated temperatures. The dry powder is essentially non-hygroscopic. Solutions are essentially non-foaming.

The following are typical examples of cosmetic products that have been prepared using sucrose monoesters as the hydrophilic emulsifiers. All of these compositions have remained stable for a minimum of six months.

Cleansing Cream

		Parts By Weight
A.	Beeswax	10.0
	Petrolatum	5.0
	Mineral Oil	35.0
	Lanolin	2.5
	Paraffin 138-140° F.	5.0
	Paraffin 125-127° F.	5.0
	Arlacel C	4.0
	Propyl Paraben	0.2
B.	Sucrose Monostearate	1.0
	Water	32.3
	Perfume and color	q. s.

Combine the ingredients of part A and melt. Dissolve the sucrose monostearate in the water, heat to 75° C. and add to part A at the same temperature. Agitate with a paddle-type stirrer until the cream has cooled to approximately 40° C. Add the color and perfume, and then homogenize. This is a moderately soft, smooth textured, white cream. It has good spreading and cleansing properties.

Lubricating Cream

		Parts By Weight
A.	Absorption Base 2691	20.0
	Mineral Oil	35.0
	Paraffin Wax 125-127° F.	5.0
	Paraffin Wax 138-140° F.	5.0
	Propyl Paraben	0.2
B.	Sucrose Monostearate	1.0
	Propylene Glycol	5.0
	Water	28.8
	Perfume and colof	q. s.

Heat the ingredients of part A to 75° C. Dissolve the sucrose monostearate and the propylene glycol in the water. Heat to 75° C. and add to part A. Stir slowly until the cream has cooled to approximately 40° C. Add color and perfume, then homogenize. This is a light bodied, liquefying cream. It leaves an emollient, non-greasy film on the skin. This lubricating cream is particularly suitable for dry skin.

Combine the ingredients of part A and heat to 75° C. Dissolve the sucrose monostearate, sorbitol and preservative in the water. Heat to 75° C. and add to part A while stirring. Continue to agitate while cooling to room temperature.

This is a soft, smooth textured, emollient hand or face cream.

Men's Cream Oil Hair Lotion

		Parts By Weight
A.	Mineral Oil	30.0
	G 1441	2.0
	Beeswax	2.0
	Span 60	2.0
	Arlacel C	2.0
	Propyl Paraben	0.2
B.	Sucrose Monopalmitate	2.0
	Water	59.8

Combine the ingredients of part A and heat to 75° C. Dissolve the sucrose palmitate in the water. Heat to 75 to 80° C. and add to part A with stirring. Continue to agitate while cooling to room temperature, then homogenize. This water-in-oil cream lotion is excellent as a hair grooming lotion. It imparts a glossy, non-tacky coating to the hair.

Baby Lotion

		Parts By Weight
A.	Butyl Stearate	10.0
	Span 60	2.0

Cleansing Lotion

		Parts By Weight
A.	Mineral Oil	10.0
	Span 60	2.0
B.	Sucrose Monostearate	2.5
	Methyl Paraben	0.2
	Water	85.3
C.	Perfume	q. s.

Combine the mineral oil and Span 60 and heat to 75° C. Dissolve the sucrose monostearate and the preservative in the water. Heat to 75° C. and add to part A. Stir while cooling to room temperature, then perfume. This medium viscosity lotion has good cleansing properties. It leaves a smooth, non-tacky film on the skin, that can also serve as a foundation base.

Vanishing Cream

		Parts By Weight
A.	Cetyl Alcohol	1.0
	Stearic Acid	18.0
	Mineral Oil	5.0
	G 1441	2.0
	Tween 60	1.0
B.	85 Per Cent Sorbitol	5.0
	Sucrose Monostearate	3.0
	Methyl Paraben	0.2
	Water	64.8
	Hexachlorophene	0.2
B.	Sucrose Monopalmitate	2.5
	Methyl Paraben	0.2
	Water	85.1

Combine to components of part A and heat to 75° C. Dissolve the sucrose palmitate and preservative in the water, heat to 75-80° C. and add to part A. Continue to stir while cooling to room temperature. This medium-viscosity lotion is rapidly absorbed, leaving an emollient, non greasy, non-tacky film on the skin.

Sun Screen Lotion

		Parts By Weight
A.	Butyl Stearate	10.0
	Span 60	2.0
	Isopropyl Para Amino Benzoate	1.5
	DC 555 Silicone Oil	2.0
B.	Sucrose Monopalmitate	2.5
	Methyl Paraben	0.2
	Water	81.8

Heat the ingredients of part A to 75° C. Dissolve the sucrose palmitate and preservative in the water, heat to 75-80° C. and add to part A with stirring. Continue to stir while cooling to room temperature.

(Continued on page 396)

The Waving Efficiency of Cold

by Donald H. Kirby

RESEARCH AND DEVELOPMENT LABORATORY, JOHN H. BRECK, INC.

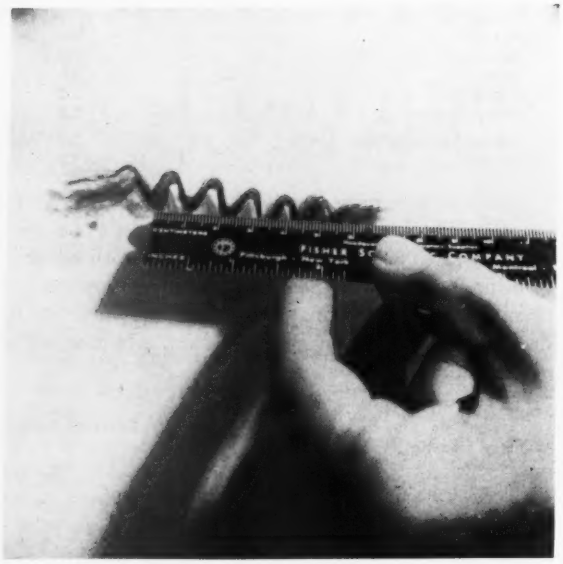


FIG. 1

For many years in our laboratory, we attempted to evaluate permanent waving lotions utilizing known laboratory techniques patterned after procedures used in the beauty salon.

One common method was to wind a swatch of hair which had been saturated with waving lotion on a regular or croquignole waving rod, allowing time for processing, rinsing, neutralizing, rinsing again and drying. When the hair was taken off the rod, attempts were then made to measure and evaluate the amount of curl produced. This method had several disadvantages, some of which are as follows:

1. Accurate measurement of the curl was impossible because of non-uniformity of the curl.
2. Determining proper processing time or that time in which the curl had attained the optimum curl could not be achieved when different hair swatches were compared.
3. The amount of tension applied to the hair when winding on the rod could not be duplicated.
4. Overlapping of the hair on the rod when winding caused an uneven evaporation of the waving lotion, thus creating a variable in lotion strength.

It must be pointed out, however, that these disadvantages are not paramount when giving permanent waves, but when the waving rod is used in the laboratory to determine the per cent waving efficiency of a lotion too many variables resulted in non duplication of results.

We were, therefore, very pleased when the method which I shall describe to you was brought to our attention. The method was developed in the laboratories of Arthur D. Little, Inc. of Cambridge, Massachusetts, with, as we understand it, a very strong assist from Dr. Donald Powers of Warner-Lambert. The method may be described as a variable means of producing a curl. Measurement of the curl and subsequent mathematical calculations make it possible to express in per cent the waving efficiency of a waving lotion whether or not the thioglycolic acid and free ammonia concentrations are known.

The basis of the method is a uniform pegboard on which hair is wound to produce a uniform curl. It is made of plastic, is 5½ cm long, one cm wide and contains 14 removable pegs approximately 2 cm high. The distance between each peg is 3/10 cm. All of the pegboards used in our tests were made at Arthur D. Little, Inc., and sent to us for our use. Two gms of virgin straight hair are interlaced between the two rows of pegs without tension and held at each end with rubber bands. The hair is wound evenly and smoothly without twisting of the hair. A strip of white blotting paper approximately 20 mm. wide and 180 mm. long is then wrapped around the pegboard and secured with a rubber band. This blotting paper encompasses the entwined hair thus forming a means of completely saturating the hair on the pegboard. Four mls. of the waving lotion under test is then applied directly to the hair and blotting paper with an ordinary laboratory eye dropper completely saturating the hair and the surrounding paper. In order to prevent the rapid evaporation of the waving lotion, the wound hair on the board is placed in a 100 ml. weighing bottle with the cap secured and this, in turn, is suspended in a constant temperature bath at 25° C.

The length of the time that the waving lotion was allowed to remain in contact with the hair varied in our tests from one minute to 60 minutes. The time being kept with a laboratory stop watch. At the end of the designated waving or saturation time, the weighing bottle is taken from the constant temperature bath. The pegboard is then immediately removed from the weighing bottle, the blotting paper is removed, the pegboard is rinsed in warm water for 30

*From the Proceedings of the Scientific Section of the Toilet Goods Association, No. 26, December 1956.

Permanent Wave Lotion*

seconds and then placed in a sodium bromate solution (120 ml. of 10 per cent solution diluted to 1 liter). At least 15 minutes is allowed for proper oxidation at which time the pegboard is removed and thoroughly rinsed for one minute in cool water. The curl is now formed and is ready to be taken from the pegboard. After the rubber bands have been carefully removed from each end of the pegboard, the pegs are then removed by merely pulling them from the peg holes. The curled hair is then taken from the pegboard base and placed in a convenient pan containing approximately three inches of water.

In all our tests, the hair floated partially submerged in the water. The reason for placing it in the water is to insure as complete relaxation of the curl as possible before a measurement is made. The curl produced here is uniform in shape and can be measured with a relatively high degree of accuracy. However, no measurement is made until the hair has been in the water for five minutes.

Measurement of the curl is made using a centimeter scale. As seen in Fig. 1, the curl contains six definite and distinct curl crests and the linear length is obtained between the first and sixth curl crest.

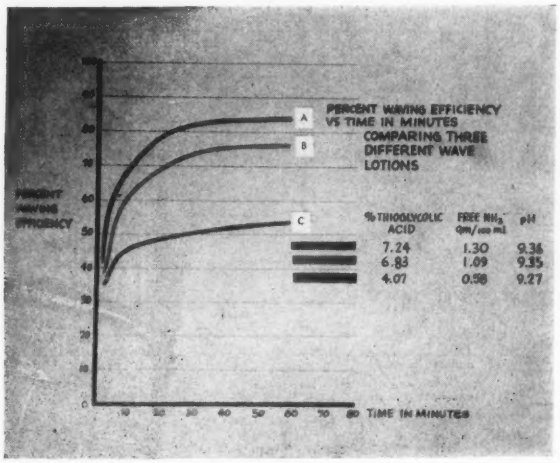
After this distance has been determined, the per cent waving efficiency of the lotion is calculated as follows:

$$100 \text{ per cent} - \frac{100 \times (B - A)}{C - A} = \text{per cent waving efficiency}$$

A equals the distance measured in centimeters between the first and sixth peg on the pegboard. It is a constant and is equal to 2.7 cm. This is not the length

(*Continued on page 397*)

FIG. 2



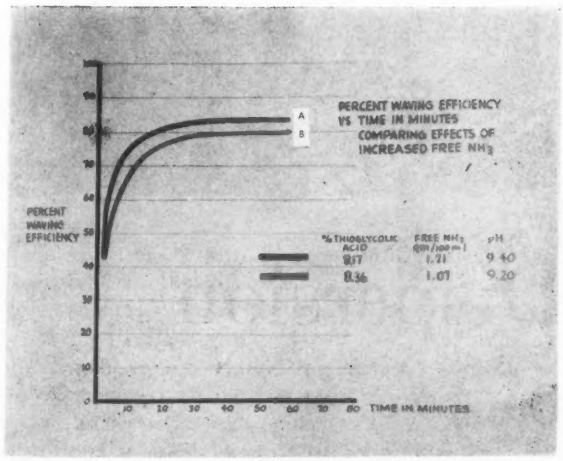


FIG. 3

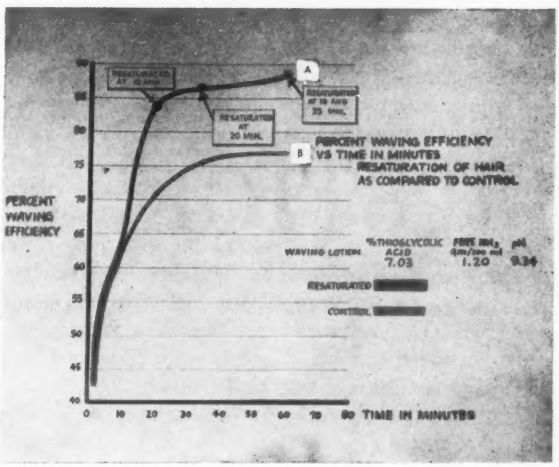
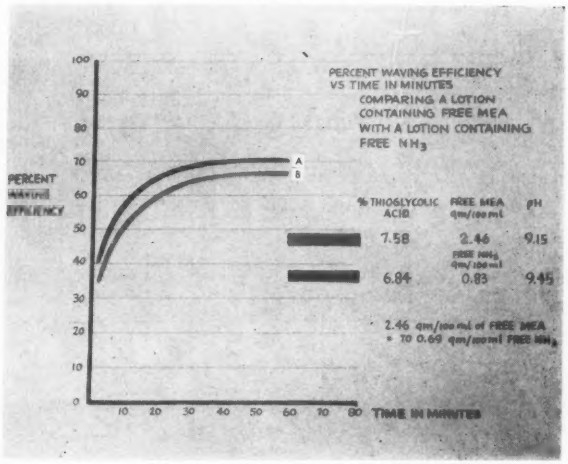


FIG. 4

FIG. 5


PERCENT WAVING EFFICIENCY VS TIME IN MINUTES COMPARING A LOTION CONTAINING FREE MEA WITH A LOTION CONTAINING FREE NH3
A
B
PERCENT WAVING EFFICIENCY
% THIOGLYCOLIC ACID
FREE MEA gm/100 ml
pH
7.58 2.46 9.15
FREE NH3 gm/100 ml
6.84 0.83 9.45
2.46 gm/100 ml of FREE MEA
TO 0.69 gm/100 ml FREE NH3
TIME IN MINUTES

Dispersion of Pigments in LIPSTICK*

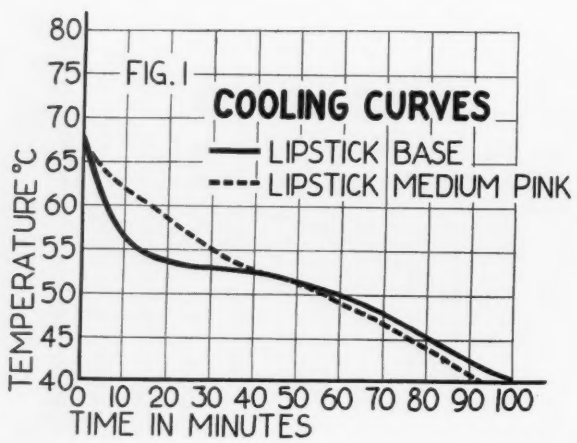
by Mary Jakovics
AVON PRODUCTS OF CANADA, LTD.

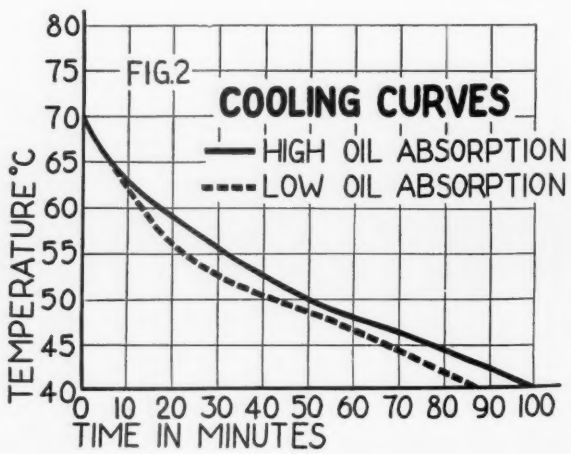
The formulation and manufacturing of a lipstick involves a number of specific problems. A well recognized difficulty is the peculiar instability known as sweating and bleeding, that a lipstick may show during its shelf life. In spite of the fact that lipstick formulae are carefully tested for stability, lipsticks undergo changes during storage and may not reach the customer as attractive as desired. A search for a pattern in the irregularities that exist in the behavior of lipsticks was undertaken, hoping that it would shed light on the causes and mechanism of sweating. This investigation lead to the problems involved in the dispersion of pigments and will be discussed in detail.

During the testing of a lipstick for heat stability expulsion of tiny droplets of oil may be observed as the temperature is raised. If various shades of the same type of lipstick are compared, distinct differences can be noted in the temperature at which expulsion of oil begins and in the quantity of oil that is expelled. On the other hand, if sticks of various shades are kept under the same conditions for some time, the changes in appearances are in general in line with what stability tests indicate, but are not of the same nature. Shades that expel oil at elevated temperature most easily have either very dull surfaces or show dry, stubby "whiskers." If sticks that have "whiskers" are carefully flamed, small pinholes may become visible, suggesting that whatever is expelled from a stick during its shelf life may be volatile. Moisture is a likely suspect. However, comparison of percentages of volatile matter in lipsticks that differ in their tendency to sweat, does not give enough support to the assumption that moisture is the cause of sweating.

The fact, itself, that sweating varies from shade to shade of the same type of lipstick, indicates that pigments play an important role. Looking for a common denominator, it is found that, for example, shades containing higher percentages of titanium dioxide, erythrosine and rhodamine lakes, sweat most readily. Further analysis of this group of shades leads to sub-

*From Proceedings of the Scientific Section of the Toilet Goods Association, No. 26, December 1956.





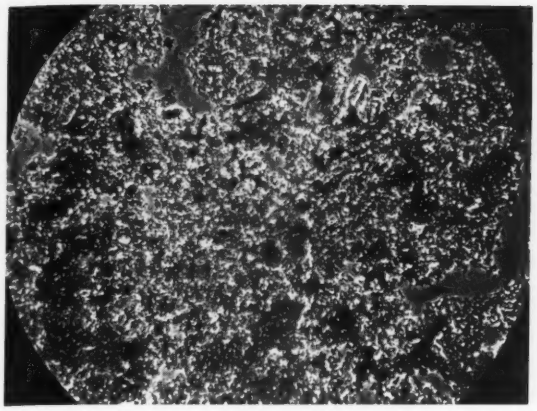


FIG. 3

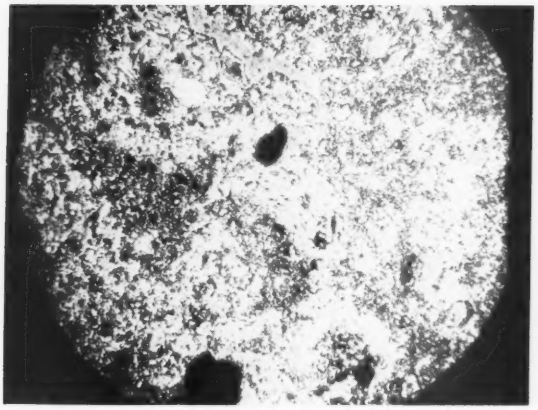


FIG. 4

grouping them by texture and appearance into: (1) Coarse and loose, and (2) Fine and firm body. Pink shades, rich in titanium dioxide and erythrosine lake, have a coarse texture and dull surfaces. Dark bluish shades, containing rhodamine (not as the only offender) have a fine texture and good surface gloss. It is noteworthy, that the pink shades, if cooled very slowly, may turn into a mushy mass "leaking oil." Therefore, to gain further insight, rates of cooling of a lipstick base (that is basic formula without pigment) and of a coarse textured pink shade were measured and temperature versus time plotted (Figure 1). The clearly defined plateau (solidification point) does not exist in the curve for medium pink, indicating that pigments are responsible for a serious disturbance in the balance of the formulation. That invites consideration of oil absorption coefficients of different pigments. To establish a measure of the influence of differences in oil absorption coefficients, the cooling curves of lipstick base containing D & C Orange No. 5 (low oil absorption coefficient) and lipstick base containing D & C Red No. 34, calcium lake (high oil absorption coefficient) were plotted (Figure 2). It is important to note that both of these bases had a fine and firm texture. The high oil absorption curve resembles that of medium pink, while the low oil absorption curve resembles more the normal cooling curve of plain lipstick base. If the degree of distortion of cooling curves is taken as a quantitative measure of oil absorption, the difference in texture, i.e., coarse versus fine, cannot be explained without admitting selectivity in oil absorption.

Microscopic examination of pigment dispersions was undertaken. Photomicrographs illustrate the basic observations. Examination of pigments dispersed in the oil part of a lipstick formula, i.e. prior to the addition of waxes, reveals that pigment particles are distributed unevenly. (Figure 3). Besides that numerous coarse particles and some large pigment clusters are visible. (Figure 4). The picture of a finished lipstick is similar (Figure 5). Though it appears more uniform, probably on account of being in solid state, there are "oil pockets" adjacent to pigment clusters. Addition of waxes seems to promote pigment agglomeration, resulting in an increase in the number and the size of pigment clusters.

Microscopic examination of lipsticks is of tremendous practical value, since it provides a yardstick for measuring and forecasting stability. Tendency to sweat is directly proportional to unevenness in pigment distribution. Furthermore, the texture of a lipstick depends on what type of pigment aggregation is dominating. If flocs of loosely bound pigment particles are present, the texture is coarse, while dense agglomerates of pigment particles are characteristic if texture is fine and firm. *(Continued on page 400)*

FIG. 5

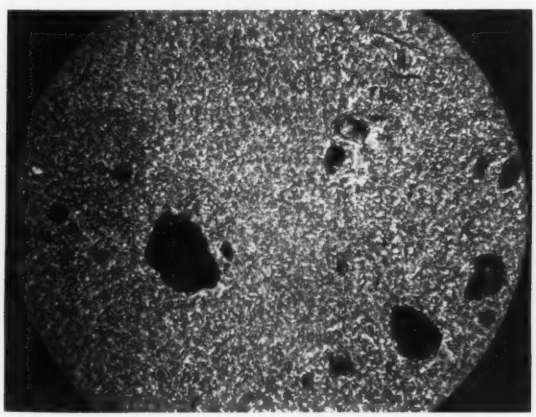
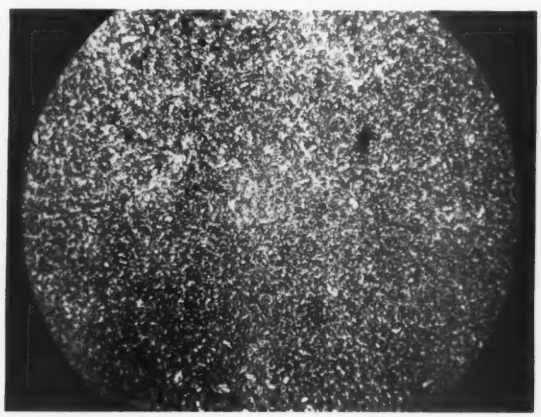


FIG. 6



Advertising to Doctors*

by F. P. Kilpatrick, Ph. D.
HEAD, RESEARCH DEVELOPMENT DEPT.
NATIONAL ANALYSTS, INC.

It appears that the physician is unique as a shopper, because most of his shopping is mental. Practically all of his noting, comparing and prescribing of medical products is done, not in the presence of the objects, but in his head—and pressures are constantly present to reinforce this pattern. Coupled with this is the fact that the physician customarily functions amidst uncertainty and is very often made aware that he has a poverty of information on which to base decisions. In spite of this he generally must make decisions quickly and without a display of uncertainty. The ordinary consumer does a certain amount of preselecting through advertising, but can reserve his final decision until he has examined and checked the actual products at the supermarket or at the appliance store. The doctor is more in the position of the telephone shopper or the mail order-catalogue shopper—but even there the comparison is not quite fair because most often he does not have the time or opportunity to examine references and descriptions, but must "shop" on the basis of what he already has assimilated. The net result is that the doctor has learned to place a high premium on up-to-date and concise sources of information.

Such a situation clearly places a heavy burden on advertising as a source of decision-making information, and it seems clear that the physician has an extraordinarily high recognition of the value of advertising to him. A study by Caplow reveals that physicians are indeed favorably disposed toward advertising and regard it as an important source of technical information.

It is clear, too, that they especially appreciate medical journals. In one of our recent studies, over half of the physicians reported that they try to read at least some of any given general medical journal on the day it arrives, and the average time per week spent reading general medical publications was reported by these physicians as being about four and one-half hours.

Ads in the medical journals clearly are seen as playing a major role in this information-gathering activity. In a study done in 1954, 82 per cent of the doctors reported reading or looking at the ads in that periodical and 80 per cent said that they found them of value. Perhaps even more positive evidence on this point are the results of a 1956 journal study which show that in one extremely well-read journal, the readership of the average ad was only slightly lower than that of the average article or feature. For the average feature, the started and completed reading percentages were 59 and 35; for the average ad, the started and completed reading percentages were 44 and 24. Among other things this means that many ads had higher readership than many of the articles and features.

A second generalization concerning doctors is that they are extremely busy, both in fact and as a matter of attitude, and both the fact and the attitude condi-

*Before Modern Medicine Clinic, New York, February 20, 1957.

tion reactions to advertising material.

It amounts to a platitude to say that doctors are busy, that they have little time to themselves and are over-worked. However, to stop with this fact misses an important point. Being busy is also a source of pride to most doctors. It makes them feel needed, offers constant reassurance of their worth and skill and, thereby, enhances their self-esteem. Consequently, they tend to *behave* as busy men even when such behavior is unnecessary. They do so because of habit, and because to do otherwise would endanger feelings of self-esteem and status. The result is that the doctor even in his leisure time perusal of advertising matter places demands on the advertising which accord with his need for efficiency and speed.

What are some of the consequences of this attitude? One of the major ones is that doctors want ads to be informative. If they feel that they have not gained information from looking at an ad they tend to regard it as a waste of time, despite any aesthetic or other possible values that might be supposed by the advertiser to be present. In addition, they want the ads to be concise and to the point—without extra verbage, platitudes and generalized discussions of facts they already know. Accompanying this is a real appreciation of functional illustrations which actually aid the speed and effectiveness of communication. Also, because the physician is typically a man who knows what lies in his field and knows what he wants to know, he places value on a good ad indexing system as an aid to reference.

Another result of the fact and attitude of business is that doctors tend to search for the most efficient means of accomplishing their objective of gaining necessary information. This is not necessarily a conscious selective process but functions more as a rejection of those sources which have the characteristics of being irregular, non-systematic, and where demands for his time and attention tend to increase. For example, a recent study we performed in which doctors were questioned about changes over the past two or three years in time spent by them on a variety of advertising media, 46 per cent replied that they were spending less time with direct mail of advertisers, and only 12 per cent reported spending more time. In contrast, the figures for general medical journals were 22 per cent less time and 33 per cent more time.

Another result of time pressure is the doctor's tendency to proceed very rapidly through a publication, checking and selecting as he goes. This places an enormous premium on the initial attention value of an ad, since the doctor tends to finish an ad once his attention is caught.

Now let's turn to another important generalization concerning doctors, related to the proceeding ones but slightly different in emphasis and, therefore, having somewhat different consequences for the physician's perception of advertising. As you well know, the doctor experiences a pressing need to keep up-to-date on the latest developments in his field. Pressure in this regard comes from his concern over giving his patients the best, most effecive treatment. But important, too, as a reinforcing factor is the strong need to appear well-informed in the eyes of patients, and especially colleagues, when new medical developments arise as topics of conversation or consultation.

In this field of keeping up-to-date on new developments, there is evidence to indicate that the medical journals play a very important role. In a study done last year, 85 per cent of the doctors reported that they first learn of new drugs from medical journals. I have already pointed out and documented the crucial role that medical advertising plays in the informational function of medical journals.

Another consequence is that the M.D. sorts and searches among ads with two general aims in mind. In the first place he is looking for new information, things he has not heard of which might prove useful to him. Secondly, his sorting and searching among ads serves a reminder or refresher function, filling in facts he is unsure about or has forgotten and, at the same time, reassuring him concerning his knowledge.

Now to another generalization. In the practice of medicine, perhaps more than in any other occupation, the practitioner functions as one who is constantly translating abstract theoretical knowledge into concrete practical applications to specific problems. In the course of diagnosis and treatment the doctor becomes thoroughly oriented to the need for concrete action, and is impatient with informational sources that fail to recognize that need.

Consequently, he values most highly those ads which translate what they have to say into practical useful action, giving him information on when to use. how to use, how much to use, contra-indications, etc,

(Continued on page 402)

THEN and NOW in Cosmetic Chemistry

THE COSMETIC CHEMIST'S PROGRESS VIEWED BY SCC PRESIDENT STRIANSE

A chemist who entered cosmetic research "with reluctance" twelve years ago now heads one of its leading scientific associations. Today he regards his role as a cosmetic chemist with pride and satisfaction. He is Sabbat J. Strianse, 1957 President of the Society of Cosmetic Chemists and Director of Toiletries and Pharmaceutical Research of Shulton, Inc.

"The cosmetic chemist has gained acceptance in two important ways," Mr. Strianse notes. "His scientific brethren respect him as a scientist, capable of adding to basic knowledge. And management values him for his vital contributions to the growth of our industry."

The present stature of the cosmetic chemist has evolved, the S.C.C. President believes, from the high standards established by pioneering scientists who entered the cosmetic field during the 1920's and 1930's. In a recent speech accepting the Presidency of the Society, he paid tribute to his predecessors in office for their dedication to building up the prestige of their profession.

Only close acquaintance with two distinguished Past Presidents—Dr. Paul G. I. Lauffer and Dr. Everett G. McDonough—led Sabbat J. Strianse to become a cosmetic chemist. He met the two noted cosmetic chemists during World War II when George W. Luft Company and Evans Chemetics, Inc. were producing chemical kits for the armed forces and Strianse was coordinating production for the Chemical Warfare Service. Admiring the scientific caliber of his war-time associates, he began to question the prevailing attitude toward cosmetic chemists as empiricists and in 1945 accepted Dr. Lauffer's offer to join George W. Luft Company as research chemist. The beginning of his new career was clouded by an awareness that other scientists considered the field outside the bounds of science.

"The Society of Cosmetic Chemists was just starting then and it seemed to many of us a step toward recognition in the scientific world. From the very beginning, the papers presented before the Society made an impression on chemists in all fields. I still remember how impressed I was by a paper Dr. Cuthino presented on bromo acids. He was reporting fundamental research that was on a level with the finest academic work." Mr. Strianse adds, "The technical sessions of the SCC have maintained this reputation for quality and they've been instrumental in extending the influence of the cosmetic chemist to other areas of science. We've helped to stimulate a new approach on the part of the medical profession to cosmetics. The Society's Special Award has stimulated fundamental research by dermatologists. Some of the finding of cosmetic chemists also have inspired further research on organic chemistry."

Increasing emphasis on fundamental research has helped to attract qualified scientists to cosmetic chemistry, according to Mr. Strianse. The industry now offers scientists an attractive balance of stimulation and freedom plus many rewards. Women chemists, he notes, are finding their feminine interests and scientific training increasingly welcome in the cosmetic industry.

"Management recognizes that it is the scientist who will bring about the new products and processes that will keep the cosmetic industry growing." Mr. Strianse predicts, "As we move into an era of therapeutic products it becomes the responsibility of the technical staff to keep a company alive and alert. In addition to knowing how to formulate a product that is reproducible every time, the cosmetic chemist must know how it will react on the body. Some time ago chemists made management aware of the toxicity problem and now we're helping to clear out the false promises and gimmicky miracles. Our knowledge is being incorporated now into marketing strategy."

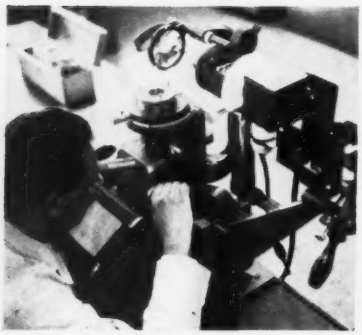
In addition to building public confidence with safer, more stable products, the SCC President cites new manufacturing methods, quality control, and objective evaluation of products as contributions of the cosmetic chemist. These achievements have brought the scientist into top-level participation in management decisions.

Packaging and Selling

New Ban Package
has been introduced by Bristol-Myers. Maximum point-of-sale display, minimum shelf space requirement, and complete stacking ability are offered by the three color, cellophane wrapped, die-cut carton, which has a window to permit customer inspection without product handling.

Vitamin Pocket Dispenser
is being offered by Squibb as an aid in the fight to keep the vitamin business in the drug store. The Vigran-M combination package is composed of a bottle of 100 plus a free two-week supply in an easy-to-refill plastic dispenser, both for the price of the 100's alone.

OWENS-ILLINOIS ASSURES YOU A



Co-ordinated Research

Pure research into formulae and fabrication of glass, *packaging research* into processing and handling methods in customer plants, and *market research* into consumer attitudes, add up to greater specific value for your packaging dollar.

Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.

The Right Container

Versatility of facilities and talents points to Owens-Illinois as your best source of supply for a wide range of specialized needs: containers where beauty, utility and tradition are blended in the proportions required by different product classifications.

Meet a couple of

Self-Measuring Container

"WORKING" PACKAGE

Selling power akin to that of the aerosol, the squeeze bottle, and the controlled flow applicator appears to be inherent in another type of convenience packaging —the self-measuring container—which might prove effective for manufacturers of dry free-flowing solids, such as bath salts or dietary supplements.

The concept of a self-measuring package is not new. Metered containers are based on the volumetric principle, the simplest form of which is the hourglass. But barring its application to packaging have been problems of cost, construction, accuracy, volume displacement by the metering device, and use of high-speed filling machinery, U. S. Metered Container Corporation, 527 Madison Avenue, New York 22, states that it has solved all these problems.

Most proprietary powdered drug products require measuring by teaspoon. Although in some cases, the very character of the product changes (such as antacid to laxative to cathartic) with the amount used, many consumers measure haphazardly. Frequently, conventional teaspoons rather than measuring spoons are used, and then are filled in amounts varying up to 300 per cent. Therefore a consumer who thinks he is taking three teaspoonfuls may be taking as many as nine. If a manufacturer could advertise a package that would "Measure as Accurately as Your Pharmacist Does," it would seem an excellent method of selling.

A most attractive package for bathsalts could be designed with an acetate window wherein the consumer could watch the reloading process. After the box is poured and re-inverted, there is a flowing movement as the material reloads into the measuring chamber. Colored bathsalts combined with proper package design might well suggest a waterfall or rainstorm.

With discharge of contents, the loader is filled.

The metering blank is automatically erected in the carton.

The self-measuring carton is used in an identical manner to a conventional container. The consumer inverts the package completely and holds it in that position until the flow stops. He then returns it to normal and the reload is usually immediate (some products require two or three seconds). Almost every product has a basic measurement which can be used, and multiple pours may be employed where larger proportions are required.

Contents escape from loader through opening in top of meter.

To help sell the products you package in Canco containers...

...Canco sponsors NBC NEWS on TV during 1957

—broadening the famous "oval" campaign to consumers!

This year, news-conscious America is seeing Canco's oval trade-mark on television—and learning why it symbolizes packaging leadership . . . how it helps everyone to "live better, more conveniently, for less money."

To tell its message, Canco has chosen NBC NEWS on TV, featuring Chet Huntley and David Brinkley. It is TV's *highest-rated* news show, carried by 89 stations with a potential audience of 35 million TV homes!

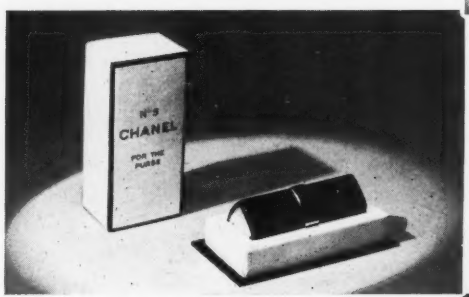
To get the full benefit of this powerful and dramatic campaign, make certain *your* containers carry the Canco oval—the trade-mark recognized by more and more consumers as their guide to quality containers.

Tune in the next Canco NBC-TV NEWS Show—March 11, and alternate Mondays thereafter. See your local newspaper for time and channel.

AMERICAN CAN COMPANY *New York • Chicago • San Francisco*

Package Design AWARDS

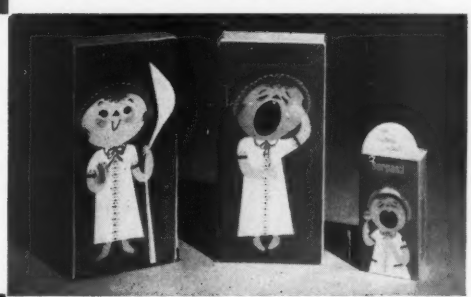
Best-in-show Gold Medal and first prizes in the personal products and redesign categories went to "Ice Blue" Aqua Velva.



Top honors in cosmetics category were won by Chanel "For the Purse."

Three First Awards in the Package Designers Council's Third American Package Design Competition went to the J. B. Williams Company's "Ice Blue" Aqua Velva bottles and cartons. The PDC Packaging Jury awarded the Gold Medal, highest honor presented, to Donald Deskey Associates, New York, who designed the Aqua Velva package, which was also voted best entry in the Toiletries category and best example of a redesigned package.

Other First Awards went to James Fogelman, L. H. Zahn and Harry Zelenko of Summit, N. J., for the best pharmaceutical package—Ciba's Serpasil Elixir container, produced by the Sparks Corp. Top honors in the cosmetic packaging category went to Jean Helleu of Paris for Chanel's "In-the-Purse" flacon and box. Suppliers are Scovill Manufacturing Co., Carr-Lowrey Glass Co., Walter Jamieson Corp., E. J. Trum, Inc., and Armstrong Cork Co.



First place in the pharmaceutical category went to Ciba's Serpasil Elixir.

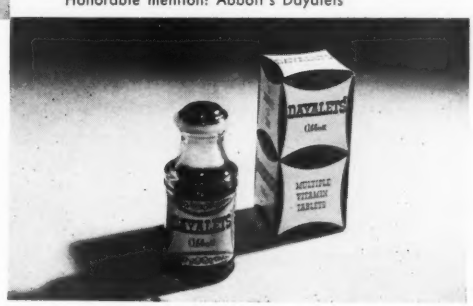
Honorable mention: Eno "Fruit Salt."

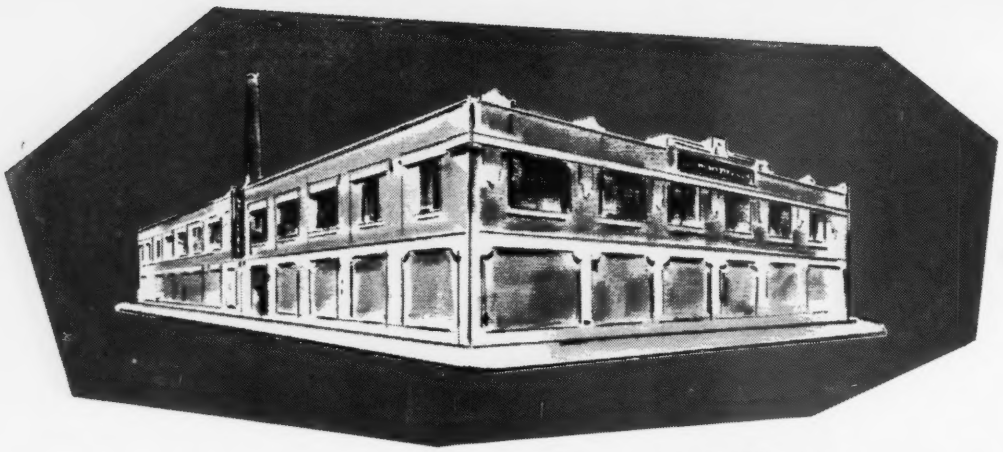
Certificates of Merit for runners-up in the pharmaceutical, toiletries and cosmetics categories were presented as follows:

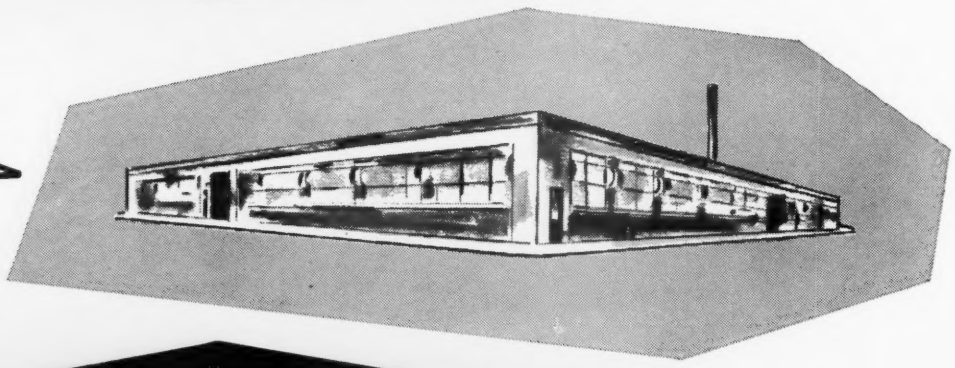
Pharmaceuticals

Gerald Schuenman, North Chicago, for Dayalet

Honorable mention: Abbott's Dayalets







INTEGRITY...

IN 142 BILLION UNIT-PACKAGES

Integrity in business is honesty in business . . . honesty in the merchandise produced . . . honesty towards one's customers—towards one's suppliers. For this reason integrity is the very tangible quality that has gone into each one of the more than 142 billion Unit-Packages Ivers-Lee has produced over the past 38 years. Ivers-Lee customers look upon us as Unit-Packaging experts. They expect from us the perfect packages for their products. They know that we have no interest other than the complete success of their Unit-Packaging plans. They know this because they realize that Ivers-Lee is first, last and always a creative Contract Packager. They know that the entire Ivers-Lee business structure is built on the keystone of integrity.

Ask to see our Unit-Packaging specialist.

IVERS LEE CO.
213 CENTRAL AVENUE NEWARK, NEW JERSEY

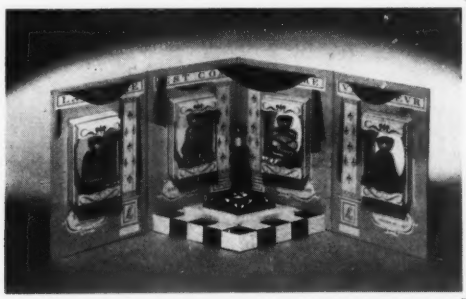
Ivers-Lee is the creator and Contract Packager of Super-Sealtite, the Catchcover, the Tab Pak and a thousand and one other unusual packages for sampling and distributing single or multiple doses of tablets, capsules, powders, creams and liquid Dropettes.

Honorable mention: Sears, Roebuck's Baton Deluxe.

and Dayalets Vitamin packages of Abbott Laboratories, produced by Acme Paper Box Co., A. M. Steigerwald, Owens-Illinois Glass Co.

Norman D. Vineis, New York, for "Noludar" package of Hoffmann-La Roche Inc., produced by E. J. Trum, Ramapo River Printing.

Ted Morrison, Toronto, Canada, for Eno "Fruit Salt" package of Harold F. Ritchie & Co., Ltd.,



Certificate of merit: Lucien Lelong Galerie des Parfums.

Toronto, produced by Rolph-Clark-Stone Ltd.

Toiletries

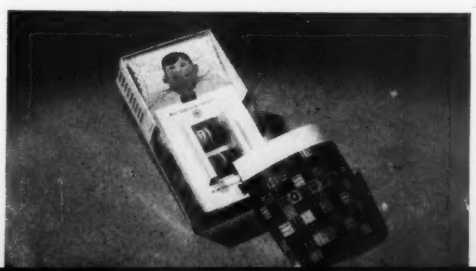
Robert Sidney Dickens and Kenji Yoshizumi, Chicago, for Dial Shampoo and Soap packages of Armour & Co., produced by National Paper Box Co., Owens-Illinois Glass Co., Plax Corp.

Certificate of merit: A la Carter.

Jerome N. Michell, Elmhurst, Ill., for Baton Deluxe Men's Toiletries package of Sears, Roebuck & Co., produced by Walter Frank Organization, Donrico, Inc.

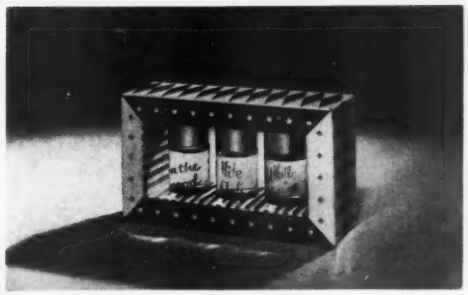
Cosmetics

Bob Gill, New York, for A la Carter Perfume package of Nicholas Carter, produced by Murray Hill Label Co.



Certificate of merit: Hoffmann-La Roche, Inc. Noludar.

John Allan, New York, for Lucien Lelong Galerie des Parfums package of General Beauty Products, produced by J. Landowne, Chaspec Manufacturing, Emet Plastics, Shaw-Randall, Lord Baltimore Press, Schlegel Lithographing Corp., Kimble Glass Co., Colt



Certificate of merit: J. R. Watkins Cologne Trio Gift Package.

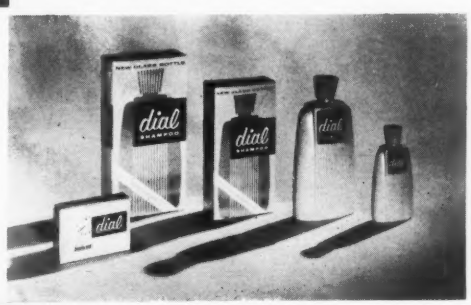
Manufacturing Co.

In the Gift category, a Certificate of Merit went to Charles Magers of Princeton, N. J., for the Mary King Cologne Trio package, designed for the J. R. Watkins Co., and produced by S. D. Warren Co. and Interchemical Corp.

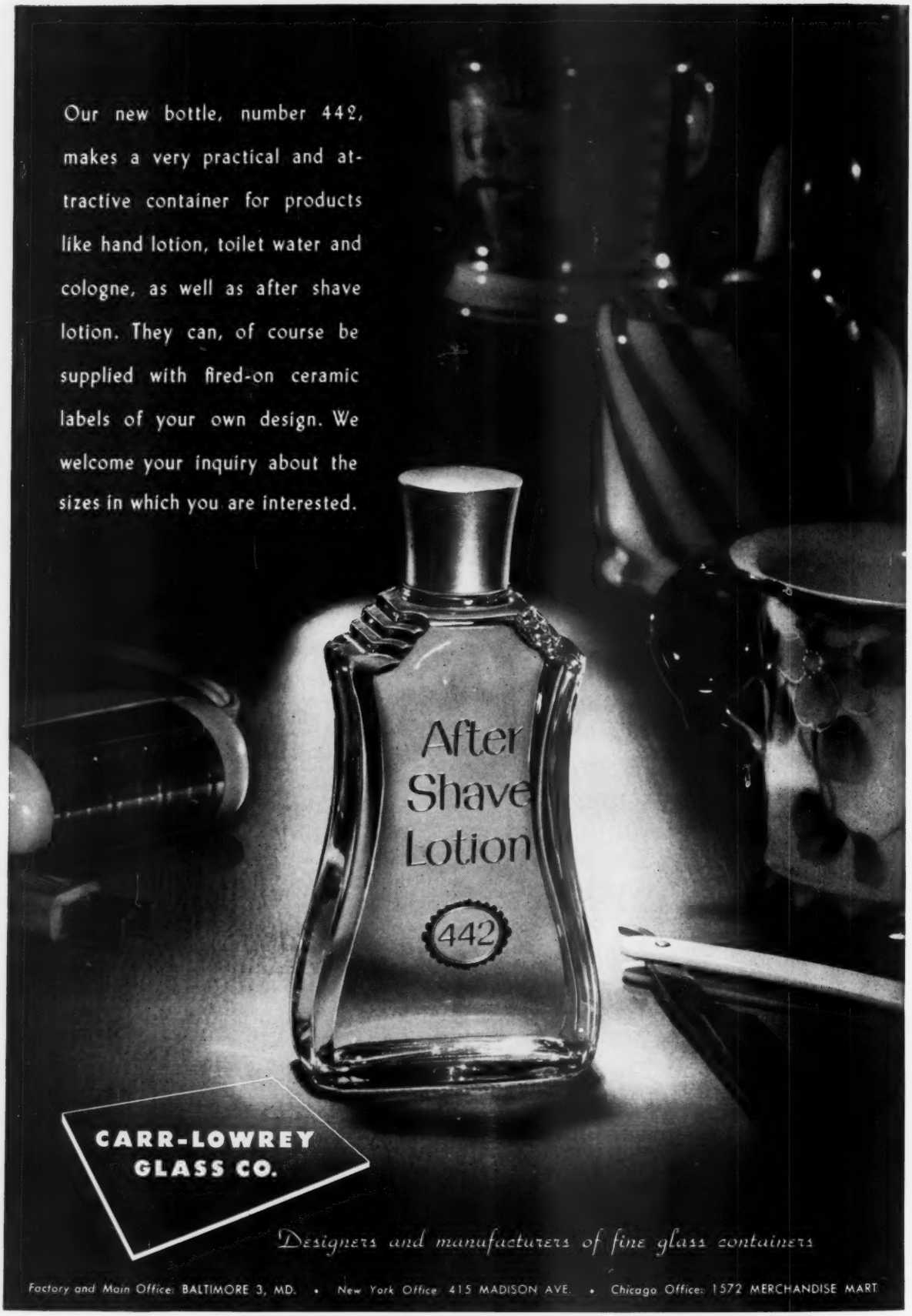
A special Industry Award of $500 made available to PDC by the Collapsible Tube Manufacturers

Industry award, sponsored by Collapsible Tube Manufacturers Council, went to Ortho Delfen.

Council, was also presented to Mr. Magers for the Ortho Delfen Tube he designed for the Ortho Pharmaceutical Corp. Suppliers involved in the complete package were White Metal Manufacturing Co., Sheffield Tube Corp., Hankins Container Co., Equity Press, Inc., Celluplastic Corp., Mack Molding Co., Richardson Taylor Globe Corp.



Certificate of merit: Armour & Co. Dial Shampoo and Soap.


Our new bottle, number 442, makes a very practical and attractive container for products like hand lotion, toilet water and cologne, as well as after shave lotion. They can, of course be supplied with fired-on ceramic labels of your own design. We welcome your inquiry about the sizes in which you are interested.
After Shave Lotion
442
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
Factory and Main Office: BALTIMORE 3, MD. • New York Office: 415 MADISON AVE. • Chicago Office: 1572 MERCHANDISE MART

GLASS COATINGS*

by Dr. W. R. Prindle

ASSISTANT TO THE TECHNICAL DIRECTOR, HAZEL-ATLAS GLASS DIVISION CONTINENTAL CAN COMPANY

Though glass is inherently very strong, it may be seriously weakened by surface flaws, such as chips, pits, scratches and abrasions. One solution is to remove surface damage by fire polishing in which an intense flame played on the surface of the glass softens the glass and heals the flaws. Another method of flaw removal utilizes a hydrofluoric acid polishing solution to round off the defects so that they are no longer serious stress concentrations.

Neither of these methods has been used commercially because they are complicated and expensive. Another solution is to protect the surface. As a result, the idea of coatings to protect the glass from damage has been developed in the last few years. Glass is very strong as manufactured and has a surface that is very nearly free of scratches. Therefore, if one could keep the surface from being damaged and avoid the formation of stress concentrations the original strength of the container could be preserved (see Figure 1).

EFFECT OF PROTECTIVE COATING ON PRESSURE & IMPACT STRENGTH
Light Weight Beer

	Uncoated	Carbowax Coated
Pressure strength after abrasion, Psi	194	262
Impact strength after abrasion, in-lb.	26	61

FIG. 1

Coatings act like lubricants so that objects which might scratch the surface slide over it without digging in.

Many materials have been tried as bottle coatings, but they must meet three criteria to be generally useful and acceptable:

1) They must provide a lubricity to the glass surface that protects it from damage.
2) They must be non-toxic.
3) They must accept a label applied with conventional adhesives.

The first type of surface coating to be used was a thin film of sodium sulfate. This was produced on the ware by admitting sulfur dioxide gas to the annealing lehr. The sulfur dioxide combined with the sodium in the surface layers of the glass to produce sodium sulfate. The coating was visible as a white or greyish "bloom" on the ware and provided a slick, greasy, lubricating film. The extraction of sodium from the surface leaves a tough skin on the glass that resists abrasion to a certain extent. Sulfur coating is still used extensively on beer bottles, but has never been used to any extent on glass containers for other purposes.

The protective coatings most commonly used on glass containers today are edible waxes of the stearate or glycol type. The two used most extensively are polyethylene glycol ("Carbowax" manufactured by the Carbide and Carbon Chemical Co.) and polyoxyethylene monostearate ("Myrj.-52 S" manufactured by the Atlas Powder Co.). Please see Figure 2 for a comparison of coating materials.

IMPACT STRENGTH OF COATED BOTTLES AFTER ABRASION
12 oz. Amber Utility Bottles, One Trip In Filling Line

	Median Average, in-lb.
Uncoated	5.4
Carbowax 600	8.3
Myrj 52S	8.5
Silicone DC-4010	8.1
Silicone DC-4141	9.1

FIG. 2

These materials are applied by dissolving in water and spraying the solution on the containers as they emerge from the lehr. The wax coating is extremely thin, less than one thousandth of an inch, but even though the film can't be seen it successfully lubricates the surface so that it is protected from abrasion. These waxy materials are non-toxic and cause no difficulty in the application of labels with any of the usual adhesives.

The wax materials are soluble in water so that some of the coating is washed off if there is a washing operation in the filling line. Some silicone coatings have developed that are not soluble in water and provide more lasting coatings. These coatings work on exactly the same principle as the sulfur and wax coatings, i.e., by surface lubrication. The degree of protection provided is approximately the same as that given by the other materials. The silicones are sprayed on at the

(Continued on page 404)

*Part of a paper presented at the recent Society of Cosmetic Chemists meeting.

Packaging and Selling

Beautiful Hair

"Beautiful Hair Breck" is the title of a long major feature article in the February 8th issue of Printers' Ink. This leading journal of the advertising profession sub-titles this article "An All-Time Advertising Classic" and then states, "In which it is shown that simple sincerity, consistent continuity and product performance as advertised are just good business."

Since the retail journal we publish, that is Beauty Fashion, was the second magazine following Modern Beautyshop to receive the Breck advertising and since Beauty Fashion has carried Breck advertising in 4-color pages in every issue for nearly twenty years, we have followed the success growth of this unusual company through a close, friendly acquaintance both with the creator of this unusual advertising, that is Charles Sheldon of Charles Sheldon, Inc., Springfield, and with Ed Breck whose clear, consistent thinking and able management has made this company, John H. Breck, Inc., one of the most interesting case histories of success on the American business scene.

The Breck Company has grown through a period of intense competition and in a branch of our industry that probably has the toughest knock-down competition, linked up with the biggest expenditure of dollars of any part of the industry. Breck's competition, probably as far away from a pushover as you can imagine, is primarily Procter & Gamble with Drene, Colgate-Palmolive with Halo and literally a host of others, big and small.

The Breck advertising policy has been basically a philosophy of low-pressure selling using what is probably the most distinctive advertising in America today. The consistently used full-color pages given instant identity, establish instantly a recognizable personality and creates a feeling of subtle sincerity.

While time has proven that that has been the reaction of the consumer, it is only within the last few years that the advertising profession in general has recognized that there is something, somewhere, and somehow different in Breck advertising. Printers' Ink quotes a New York agency head as commenting during the early periods of these ads "(1) The illustrations were old fashioned, (2) If women thought they were old fashioned, maybe they would think the products were old fashioned and (3) The copy was for the birds . . . it had no oomph, zing, and pep. To make matters worse, Sheldon had not used professional models."

Several years ago we commented, in this department, on a remark Ed Breck had made to us, in which he stated that his company probably had been solicited by nearly every leading advertising agency to switch their account because in the other agencies opinions Breck's advertising was old fashioned, impossible, ineffective, and belonging to a previous generation. Ed Breck told me, at that time, that he had no way of arguing with their expert opinion except to say that his business was growing with leaps and bounds each year.

The truth is that on each of many reader tests of advertising Breck has either headed the list or been among the top two or three. In a Starch test for the Ladies Home Journal it has been the conspicuous outstanding leader in attention, in interest, and in memory value.

We have long admired the success of the John H. Breck Company and it pleases us greatly to see in this long article in Printers' Ink what we recognize as final professional recognition for a truly magnificent job in advertising and in company building. From our own experiences, looking at Breck back over twenty years, as a company case history, we will give these factors as a basis of their success.

1. A fine product quality.

2. Beautifully and distinctively packaged, with a consistently permanent recognition value for their package.

3. A philosophy of doing business that gives full recognition to sincerity, consistency of purpose and a modest determination to grow without fan-fare, gimmicks, gadgets, splurges, hullabaloo, but in a quiet way that can be held and sustained.

4. A creative style of advertising that is unique in American advertising history, the courage to adopt this advertising, the courage to stick with it through years of adverse professional advertising criticism.

5. A policy of rigid consistency and continuity in advertising. A few of the Breck magazines receive six insertions but to a large extent the Breck advertising appears month in and month out, regardless of seasons, regardless of weather, regardless of promotions, in each and every month.

6. A consistent plan for carrying the style and theme of this distinctive advertising through every external phase of the business, that is packages, window displays, circulars, and booklets and so forth.

Let's say that the success of this remarkable com-

pany can be condensed into two primary words, sincerity and consistency.

Joint Promotions

What is said to be the biggest food advertisement in the history of the industry will run in the April issue of "Better Homes and Gardens" in a fourteen page insert and will cost $346,500. This advertisement is a cooperative promotion with Pillsbury including The Aluminum Company, Penick & Ford, Ltd., Procter & Gamble Company, Atlantis Sales Corporation, Kraft Foods Company, and Pet Milk. The theme of the advertisement is "A cookbook in a magazine" and is based upon the winning recipes in a recent national cake baking contest.

This seems like an awful lot of calories to us but we still think the idea is a good one. We think that cooperative or coordinated advertisements between companies and products with similar and joint interests is very much on the increase and has tremendous possibilities.

130 Ways to Promote

You would not think that there could be 130 kinds of trade deals even in this age of gimmicks, gadgets, promotions, and premiums. But according to E. B. Weiss, who is Director of Merchandising for the advertising agency Doyle, Dane, Bernback, Inc. of 20 West 43rd Street, New York 36, N. Y., there are at least this many. Mr. Weiss has been a well-known authority on merchandising for a good many years and is very favorably known for his keen analytical articles on this subject. Now he has written a booklet called "130 Tested Trade Deal Strategies and Their Tactical Development" published for distribution by the agency.

We won't attempt to discuss this book in detail beyond saying that it is an excellent analytical case history study of all the kinds of deals and promotions we have ever heard of, plus quite a few more. Certainly, it must offer the most complete detail on this subject published today.

We would like to quote, however, a few words from the release which accompanied this booklet.

"Wheeling and dealing" has become one of our great merchandising expressions.

"As a matter of fact, the chief criticism that may properly be made of many, if not most trade deals, is that they too infrequently make a *permanent* contribution, or a truly lasting contribution, to a sales gain. Perhaps more often than otherwise, if volume for several months before the deal—and volume for a period after the deal—is computed, it is found that the trade deal has not added enough real volume to justify its cost.

"But the one element that cannot be weighed is: what would have happened to our volume; to our trade position; to our costs—if we had not had a trade deal?"

According to Mr. Weiss, the tougher the competition, the more and the tougher the trade deals. Also, the stronger the trade outlet becomes and the greater the purchasing power of these retailers, the more powerful becomes the lever which the retailer applies to trade deals from the manufacturer. Since this book touches upon so many sales problems of this trade, we are glad to report that copies are available at Doyle, Dane, Bernbach, Inc. at both their New York and Los Angeles offices.

Product Color

It may be that the cosmetic industry could use more color to greater advantage. It is true that we have had colored creams in the past, as for instance, Palmolive's use of the traditional green in shaving cream. Still, along with the development of packaging and perfuming, it might be that product color could give a very definite plus in visualizing an important active ingredient in the cosmetic.

Along this line we hear that J. B. Williams Company are going to color their new Golden Yellow shave creams with yellow in order to emphasize the lanolin content.

Private Label

We do not know what part of the cosmetic industry, that is how much volume or how many companies, depends for its existence upon private-label manufacturing. We do know, however, that it is a substantial part of the industry. We know also that without these facilities many hundreds of small companies, many medium size ones, and a few larger ones would find it very difficult to continue operations.

With these thoughts in mind we were very much impressed with the new bulletin from the U. S. Department of Commerce titled "Private-Label Manufacturing of Cosmetics and Related Products." This four-page pamphlet lists in detail the essential services of the private-label company to this industry. Here are some of the advantages which the private-label manufacturer can offer, as listed in this bulletin.

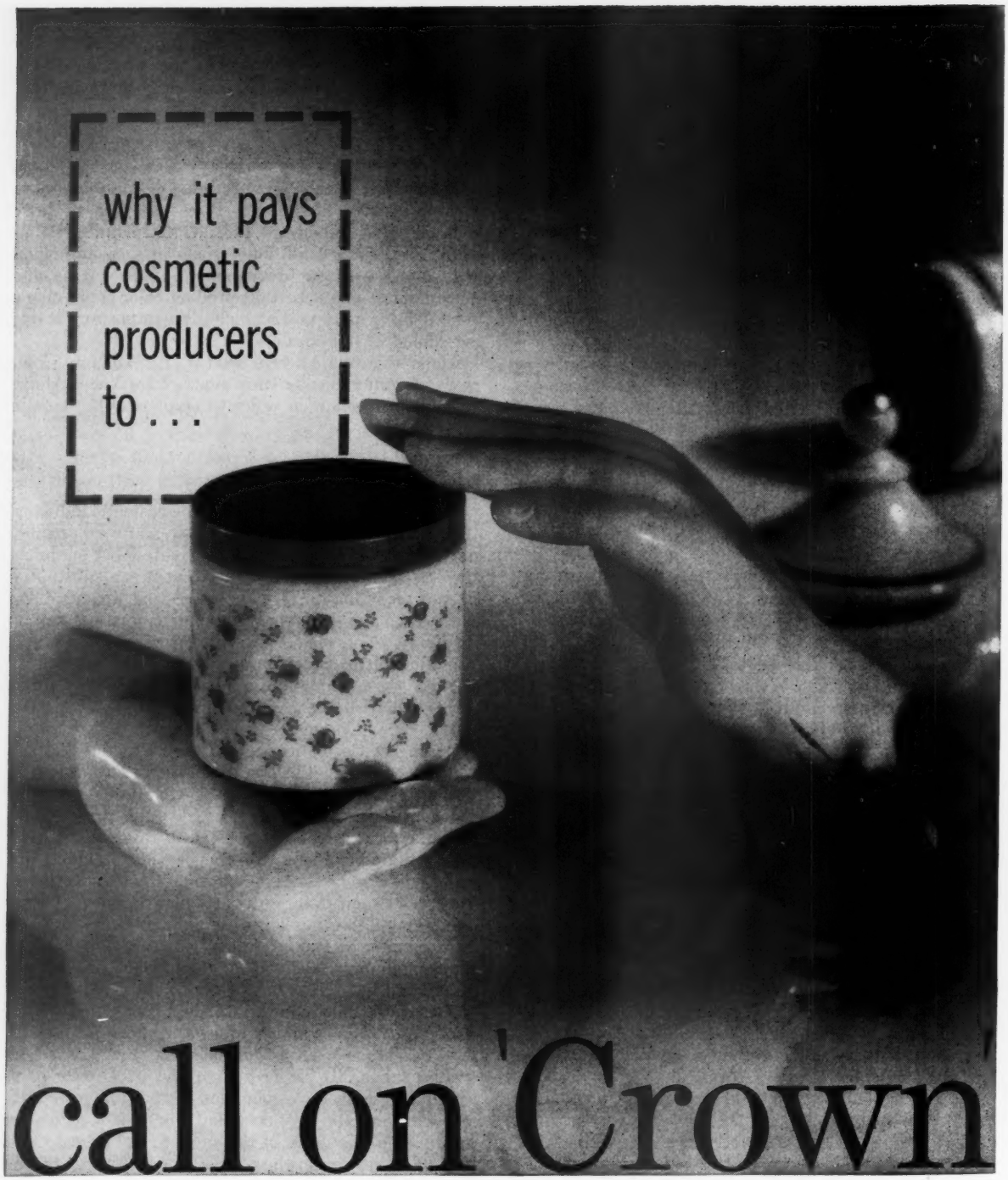
A private-label manufacturer provides products in a wide range and variety of cosmetics, irrespective of the size of the run for any particular product. A complete manufacturing set-up is available for the small businessman or the large firm, whereby all the steps from planning to delivery of the finished package are performed.

Cosmetics must conform to the Food, Drug, & Cosmetic Act. It also comes under the supervision of the Federal Trade Commission on such things as advertising claims. It requires time and experience to be conversive with the application of the rulings of these agencies and the mistakes that might jeopardize the business, particularly of the small firm. Private-label firms experienced in the cosmetic business, can extend a great deal of help in this direction.

The private-label companies, because they purchase in the interest of a variety of customers, usually have advantageous purchasing associations.

In development and research the small or medium size businessman is usually at a complete disadvantage. With the private-label firm he does have the advantage of constant exposure to market requirements, to all of the research developments within every branch of the supply trade, and to the research which is being done by many of the private-label houses.

The avoidance of waste or tie up capital invested in



Meritseal provides a special touch of packaging glamour for your prestige cosmetic products. This distinctive cap, with its sparkling "show-case lithography" sets your product apart from the rest . . . captures the attention of the cosmetic buyers . . . creates the spark that results in sales.

And Meritseal has more than beauty. This closure is made of special rolled steel and has a die-stamped, precision made thread. This assures smooth, fast application on the production line . . . gives rigidity that eliminates expansion, contraction and cracking . . . prevents the outer shell from spinning . . . and provides easy removal and re-closing in the consumer's hands.

Meritseal has the answer for sizes, too. It is made in a very complete range from 33 to 100 mm. You can choose from a variety of liners, and they are all "locked-in" the cap by the special Meritseal construction.

CROWN CORK & SEAL COMPANY, INC., BALTIMORE 3, MARYLAND

stocks, the losses from spoiled batches due to inexperience and poor formulas, and many other liabilities of small business are all assumed by the private-label house.

The small manufacturer may not have either the capital or the experience or the facilities for employing much of the new and advantageous machinery and equipment which is appearing on the market, but the private-label company, because it can spread such equipment over a variety of customers, often has an impressive advantage in this direction.

In packaging, the private-label company has many advantages in purchasing, in exposure to new ideas, in storing inventory, and in many other ways which can be very valuable to many other businesses.

Many risks which happen to business or which many form a pool of intangible threats to the company with a small plant can be delegated to the private-label company. Such risks might include fire and theft, illness, labor trouble, and a host of other imponderables that the small businessman with his own factory knows only too well.

This bulletin BSB No. 51 is published by the Chemical and Rubber Division, Business and Defense Services Administration U. S. Department of Commerce.

Brainstorming

If you have a responsible position in business and have a specific problem, you might as well make up your mind to it, you are in for Brainstorming. This new technique of Brainstorming is sweeping business so thoroughly, so productively, that it will certainly soon become one of the major and most talked about tools in solving many kinds of problems.

According to a recent bulletin on Brainstorming published by du Pont, "Brainstorming is the popular name for the uninhibited group approach to solving problems and generating ideas. This technique has also been called such things as group or team ideation, group think, mass imagination and applied idea thinking. It is definitely neither a panacea for all problems nor a substitute for individual creative thinking. It is a supplementary source of valuable ideas."

Alex Osborn, of Batten, Barton, Durstine, and Osborn is credited with developing this technique and this definition, " 'Brainstorm' means using the brain to storm a creative problem—and to do so in commando fashion, with each stormer audaciously attacking the same objective."

The real secret of Brainstorming appears to be that a spontaneous flow of ideas is generated in a group in way that could not possibly happen for the individuals by themselves. Spontaneous ideas or suggestions trigger the imagination of another individual and stimulates group thought. Experiments have shown that the free association of ideas are 65 per cent more numerous in group activity than when working alone.

When you Brainstorm, you put creative imagination to work. This kind of a session has been called "a controlled bull session with a purpose."

According to du Pont, here are the ground rules for Brainstorming.

1. Judicial judgment is ruled out.
   Criticism or justifying of ideas must be withheld until later.
2. "Free wheeling" is welcomed.
   Ideas of all types and kinds are wanted. Often the wilder and more unorthodox the ideas and the broader their scope the better. It is easier to tame down than to think up.
3. Quantity is wanted.
   The greater the number of ideas, the greater the likelihood there will be good ones.
4. Combination and improvement are sought.
   In addition to contributing ideas of their own, panelists should make suggestions related to the ideas of other panelists.

After such a meeting, the unscreened ideas are edited and then submitted to another much smaller group for further screening. This final list then goes to the person who originated the problem, for his use.

A problem to be Brainstormed must be clearly defined. It should be specific rather than general, and it it should call for a variety of possible solutions. Problems that require a policy or management decision cannot be Brainstormed successfully, nor can a Brainstorm panel handle a problem that requires more research or study. Problems in the area of sales, merchandising, and promotion seem especially suitable for Brainstorming.

A panel for Brainstorming should include four to six persons who are familiar with the background and nature of the problem. They should be people on the managerial level and should be men who do not hesitate to suggest the untried or the unorthodox.

In addition to the panel there will be needed two or three men who are familiar with the problem to form a screening committee. It is their job to take the unscreened Brainstorm ideas, open-mindedly evaluate each on its merit, and make suggestions to you concerning the use of the most promising.

Here are some of the companies using Brainstorming as a problem-solving technique. Bristol-Myers, Campbell Soup, Continental Can Company, General Electric, General Foods, General Motors, Minute Maid, National Cash Register, Owens-Illinois Glass, Rexall, Sears Roebuck, U. S. Rubber, U. S. Steel, and many others.

Anyone who wishes to become more familiar with this new technique which has been astoundingly successful in many cases, should write to the Du Pont Company for their bulletin "Brainstorming at Du Pont." We do not know whether this booklet is available for general distribution, but if you try hard enough, you should be able to wangle one.

New Book for Super-Sellers

There are not too many books for the man who wants to study supermarket merchandising to turn to. This has been particularly true for many sales and advertising people in this industry who have been approaching the supermarket like a babe in the woods with very little experience in this new kind of an environment.

Just recently Julian Handler, the editor of Supermarket News, has published what is certainly the first study and the first book on supermarket mer-

this impression

. . . helps you make a better impression

Glass Packaging with a flair for the Future

The famous Knox keystone is the mark of fine quality, modern craftsmanship. For over four decades, numerous manufacturers have chosen Knox glass containers to display and help sell their products successfully. Add to the prestige of your product by packaging it in glass by Knox.

Let your nearby Knox representative apply his packaging knowledge in helping you select the glass container to meet your requirements.

KNOX GLASS, INC.

KNOX, PENNSYLVANIA • JACKSON, MISSISSIPPI

7 Plants • 15 Warehouses • 34 Sales Offices

Manufacturing glass containers for: Foods • Drugs • Cosmetics • Beer Carbonated Beverages • Dairy Products • Liquor

chandising from the viewpoint of the non-food manufacturer. This book is called "Fundamentals of Selling the Supermarkets for Non-food Manufacturers and Distributors." It is published by the Fairchild Publications, Inc.

Here are the table of contents which will give some idea of the scope of this book.

1. What is This Thing Called Supermarket?
2. Knowing Your Customer
3. The Supermarket Sells Non-Foods
4. The Super Opportunity
5. What Do I Have to Do to My Product?
6. How Do I Sell to the Supermarket?
7. How do I Sell Through the Supermarket?
8. Selling Supermarket Premiums

We recommend the three chapters particularly What Do I Have to Do to My Product?, How Do I Sell to the Supermarket?, and How Do I Sell Through the Supermarket?

We do not say by any means that this book is the last word for the outsider who wants to know what he can do in the supermarket, but it is a fairly thorough, if somewhat brief, study of this problem. It does outline to a fair extent some of the pitfalls and tribulations of supermarket selling and some of the qualifications which a manufacturer and his product must have before risking supermarket operations, and it does also tell some of the basic fundamental ways of approaching the supermarket and working with it.

Marketing Principles

In a recent article "Sales Management" reported the marketing principles of U. S. Steel. This article was written by David Austin, who has just retired from the executive vice-presidency in U. S. Steel, after thirty-nine years in sales.

We think that these principles are so thoroughly sound and comprehensive that they are worth reproducing here.

1. Only a fully integrated marketing program can achieve maximum success.
2. Only the right price is a fair price—fair to seller and buyer alike.
3. There is no such thing as a one-time buyer for any product.
4. The seller's responsibility is discharged only when the product has served the ultimate consumer satisfactorily.
5. Sales effort must be applied along the entire distribution chain.

Its the Size

The more we read about what happens when a new package is introduced or a new idea in packaging, the more we are convinced that we are in an era where anything goes, providing its new.

This thought has just been inspired by reading an article by Sidney E. Frank, Vice President of Schenley Industries, Inc. on packaging. Mr. Frank states, "Finally, distillers awakened to the possibilities of small size sales that never existed before. I. W. Harper debuted its 'Traveller' plastic carrying case which makes a pint or a half-pint a discreet companion for the sportsman, spectator or traveler of both sexes. The trade reacted by buying in record-breaking volume. Old Charter's new Gold Cup model—a pint or half-pint with a gold jigger for a top—is an excursion into the convenience packaging in small sizes which has been largely ignored hitherto by distillers. The whole industry may look to small sizes to widen markets."

Just a little while ago we made a point of commenting in this department on the great success in which quite a number of companies were having with the giant size package. The milk industry, for instance, is quite excited about the sales results for its two quart and gallon package, and again the beer and the soft drink people have been getting quite a reaction to the family size or the jumbo size bottle.

No Cheaper Distribution

The trading stamp battle is still raging furiously in food merchandising circles. Two of the supermarket giants, that is Safeway and Food Fair Stores, are now in a pitched battle over the use of trading stamps. Safeway have been running huge discount sales, mostly in electrical appliances, while Food Fair have not only gone in for trading stamps in a big way, but are offering all sorts of "get acquainted" items.

It does not seem to us that this enormous expenditure by the chain stores for trading stamps is going to make the American public eat any additional food. It does look to us as if the supermarkets, in their growing bitter, struggle for competitive supremacy, are either going to add to the cost of distribution or there is going to be some very pretty throat cutting in the retail food trade.

How Big Convenience?

Just to show that when you look at the forest instead of the trees you sometimes think that there are a great many more trees than there really are, a comment in the big statistical analysis of food buying habits of American families just released by the Department of Agriculture caught our attention.

According to this survey, the new convenience foods which have so completely occupied the excited interest of the food industry, and which according to them are the wave of the future, have not yet made too much dent on the retail food business.

According to this survey, convenience foods still have had relatively little impact on the total food market, and the division of the household food dollar by commodity groups is still about the same as it was before the new convenience foods became available.

Orders for Small Business

More than $276 million in Government purchase orders were set aside for the exclusive award to small business firms in the first five months of last year through the joint action by the Small Business Administration, the Department of Defense, and civilian purchasing agencies. If you are not getting your share and if you deserve some, those three groups are there to serve you.

HOW YOU CAN

PACKAGE FOR PROFIT

IN 1957

Highlights from new Du Pont Survey

show how growth aerosols point the way to volume sales of personal products.

IN 1955 four products accounted for about 80% of total aerosol sales. To find out why many other aerosol product types have never caught on, Du Pont asked the housewife. The answers she gave tell a story of opportunity and huge sales potential for aerosols.

In the personal-products field, seven products were studied which show large total sales in all forms of packaging. These products were colognes, personal deodorants, home permanents, hair lacquers, hair tints, hair dressings and conditioners and sun-tan lotions. Only one of these—hair lacquers—has shown appreciable sales growth in aerosol form.

Survey returns show when the housewife tries an aerosol, she expresses an overwhelming preference for it. The big factor holding back the sale of many personal products in aerosol form is a lack of *consumer awareness*. Imagine the big-volume, big-profit sales, when you capitalize on high consumer satisfaction with aerosols. Why not take advantage of this potential and promote aerosols?

Custom fillers have specialized equipment and experience to help you manufacture your aerosol. They can help with product evaluation, formulation, testing, container selection and labeling, filling, packing and shipping. Write Du Pont for names of qualified fillers near you.

Du Pont can supply the right "Freon"* propellent for your aerosol product

Propellent requirements of your aerosol product for pressure, solubility, stability and particle size are sure to be met by one of the over 25 "Freon" propellent solutions available from Du Pont. "Freon" propellents are nonflammable, nontoxic, noncorrosive and uniformly high in quality. They are backed by more than 26 years of Du Pont's manufacturing leadership and the industry's most comprehensive technical and marketing services. For more information or assistance write to E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division 233, Wilmington 98, Delaware.

**"Freon" is Du Pont's registered trademark for its fluorinated hydrocarbon propellents.*

DU PONT
REG. U. S. PAT. OFF.

FREON *propellents*

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

NEWS IN PACKAGING...

Packaging Symposium

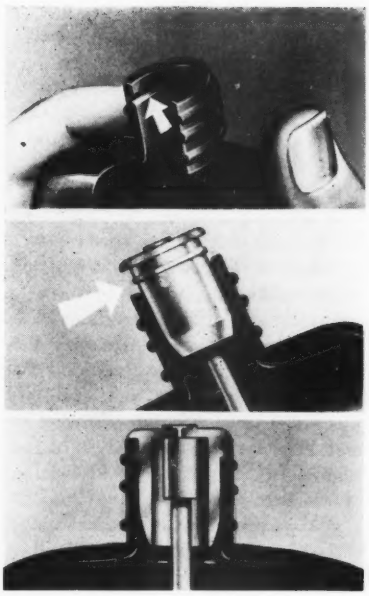
Elaborate packaging properly designed is industry's best assurance of an expanding market, according to a panel of experts at a "What Price Packaging" symposium sponsored by the American Society of Industrial Designers and the Package Designers Council.

Egmont Arens, a founder of both ASID and PDC said: "In 1956, American consumers spent more than 10 billion dollars for packages. . . . This was 2,000 packages per person. There is every indication this cost will increase within the next decades. . . . The consumer is ready to pay the price, and industry must meet this demand for better designed more ingenious packages which serve more and more needs, or lose out to competition."

A. P. Bondurant, vice-president and advertising director of Glenmore Distilleries Company, said that the package "has become a new weapon for new business or a better share of existing business." Challenging the view that brand name merchandise cannot risk changing its label and package, he said: "The old consumer loyalty to a brand isn't what it used to be."

Esther Foley, home service director for Macfadden Publications, said: "Women are already indulging in an extravagance when they buy cosmetics. The package must match in a woman's mind what it is supposed to do for her—in other words—look glamorous."

Ans'r Pak, an Irwin, Neisler & Co. service to pharmacists, has all important prescription information about the product on the outside of the carton. Formulation, indications, and dosage information are organized to provide ready answers to questions most likely to be asked by physicians. The carton will also prove useful to the physician checking his "new product" shelf. The first product to be introduced in the new Ans'r Pak is Aquatyl, scheduled for release this month.



Locking ring developed by Imco Container Corporation, 75th and Cleveland Streets, Kansas City, Mo., and the Mennen Company prevents squeeze-bottle plugs from "popping out." Concave ring in the neck of bottle, fits with convex ring molded onto spray plug, creating a positive seal and assurance that the plug will stay in place throughout use.

Sun Tube Sales Meeting

Reports on developments affecting production in the three divisions of Sun Tube Corporation were given by Kenneth Leghorn, president, at the company's recently held three-day sales meeting. "We confidently expect 1957 to be our biggest sales year in our history," he told members of the sales force, saying that he based his prediction on the present level of company business and prospects for coming months.

Case history outlines, describing the company's service policies and advances in manufacturing and design, highlighted a seminar on the firm's current work in collapsible metal tubes. Discussions were also held on Sun Tube's developments in impact extrusions.

Glasco Service Manager

John K. Maris has been appointed service manager of Glasco Products Co., Chicago manufacturer of surgical and laboratory glassware and subsidiary of Owens-Illinois Glass Co., it has been announced by Wayne G. Steineder, Glasco operations manager.

Ivers-Lee President's Report

High speed machines for making two new types of packages, which are expected to have a wide appeal for pharmaceutical, cosmetic and food manufacturers, have been tested by Ivers-Lee Company and found most satisfactory, Lloyd I. Volckening, president, reported at the annual meeting of stockholders. To provide space for the new equipment when completed, Factory No. 3 will be put into operation by the middle of this year.

Mr. Volckening said that 1956 was the company's greatest year of progress. In September an extensive program of expansion was inaugurated, which included building additional unit packaging machines of every type in operation. Mr. Volckening announced that he will now devote his full time to a long range program of development and expansion.

J. R. O'Meara has been named executive vice-president and elected to the board of directors and will be in charge of the day-to-day activities of the company. James Measday has been promoted from contract sales manager to general sales manager.

Joins Gair Engineering Staff

Vernon B. Bodenheimer has joined the engineering staff at the Greenville, N. C., office of the Robert Gair Division, Charles S. Huestis, director of the division's chemical pulp and paper department, has announced.

"Fountain pen" dispensers containing physician's samples are being distributed by Abbott Laboratories as part of the new product announcement promotion for Filmtab Tral. Over 1,000,000 of the 2¾" high-impact polystyrene dispensers, which resemble the upper half of a fountain pen, are being distributed by Abbott salsmen and an extensive direct mail campaign in which two dispensers are attached to a die-cut product file card. A green dispenser is used for Tral 25 mg. tablets, a lavender one for Tral with phenobarbital. At the bottom of each dispenser is an identifying flag, marked "Tral 25" or "Tral w. PB," which the physician can snap off before giving the pen to the patient. Abbott plans to use the dispenser for other new pharmaceuticals.

Patent thoughts and trends

by Thomas Cifelli, Jr. PATENT ATTORNEY*

The items to be considered in the present issue include the following: new developments in the ammoniated dentifrice patent situation and the hair waving situation; government reports on patent studies; a brief look at the prevailing Patent Office view on what constitutes likelihood of confusion as regards trademarks; and abstracts of a number of recent patents involing chemical processing techniques.

U. of Illinois Ammoniated Dentifrice Patents Upheld

About a year and a half ago the U. of Illinois Foundation was upheld in a suit against the Block Drug Co., Amm-i-dent, Inc. and F. W. Woolworth Company in a suit for patent infringement brought under U. S. Patents 2,542,886 and 2,622,058, both dealing with the ammoniated dentifrices. Recently, the U. S. Court of Appeals for the 7th Circuit upheld the holding of the lower Court, the patents having been found valid and infringed.

It will be recalled that Drs. Kesel and Wach were connected with the U. of Illinois, College of Dentistry, when they made their inventions which resulted in the aforementioned patents.

Claim 1 of the kesel patent, U.S. 2,622,058, is typical and reads as follows:

> A dentifrice comprising a non-toxic carrier adapted for oral administration and dibasic ammonium phosphate in proportion to provide under conditions of use in the mouth a concentration in the saliva sufficient to inhibit lactobacilli and being not substantially less than two per cent of the composition, and a flavor masking ingredient.

Claim 6 of Wach's patent, U.S. 2,542,886, is typical of that patent and reads as follows:

> A dentifrice comprising a major portion of a non-toxic non-sugary carrier adapted for oral administration, containing from one to 10 parts by weight of urea and from one to seven parts by weight of a dibasic ammonium phosphate, there being at least one per cent by weight of urea and at least one per cent by weight of the phosphate present in said dentifrice.

During substantially the same period that Drs. Kesel and Wach worked on their invention, Dr. Chester J. Henschel, a practicing dentist in New York city, was also interested in the same problem and his efforts culminated in the issuance of U.S. Patent 2,542,518, claim 1 of which reads as follows:

> A powdered dentifrice including the following ingredients in substantially the following proportions by weight:

Urea	**15 to 50**
Di-ammonium hydrogen phosphate	**7 to 4**
Abrasive	**71 to 34**

The defendants were licensed to manufacture and sell "Amm-i-dent" under the Henschel patent.

The Court, in upholding the Wach and Kesel patents, was impressed in particular with the following considerations:

1. In spite of the long-felt want for a solution to the problem of dental caries and the substantial amount of prior art relating thereto, the prior art had not been reduced to commercial practice.

2. The Court felt that a good indication that the Wach and Kesel patents involve invention over the prior art was shown by the fact that in the prosecution of Dr. Henschel's patent appl'cation a derogatory appraisement of prior art was made.

3. The contention of the defendants that the patented combination of urea and di-ammonium hydrogen phosphate does not produce synergistic action is weakened by the fact that in the prosecution of Dr. Henschel's application it was contended that the compounds do produce such action.

McDonough Permanent Waving Situation

It will be recalled that McDonough's basic permanent wave patent, U.S. 2,577,710, was held invalid by the New York Federal Court sometime ago. Nevertheless, the matter is still involved in litigation.

The situation is briefly as follows:

Sometime before the issuance of U.S. 2,577,710, McDonough filed what is called a continuation-in-part application, claiming a smaller group of polar, acidic mercaptan compositions, among which is included thioglycolic acid, which appears to be the principal, if not the only, mercaptan used in commercial permanent waving compositions today. This application was assigned to a Virginia corporation, Tidewater Patent Development Company, which became the owner of the patent subsequently granted on the continuation-in-part application. This patent is U.S. 2,736,323. On the day the latter patent was granted, Tidewater began suit in the U.S. District Court, Virginia, against customers of Helene Curtis and Gillette, charging infringements of its patent by the sale and use of the products manufactured by these companies.

Curtis and Gillette then asked the New York Federal District Court to enjoin the prosecution of the patent infringement suit in Virginia on the theory that the Virginia company is in effect a "dummy" corporation set up and controlled by Sales Affiliates and therefore Tidewater's actions are the actions of Sales Affiliates. The New York Court was also asked to hold Sales Affiliates in contempt for violating the decree of the New York Court in the suit involving McDonough's patent, U.S. 2,577,710.

The New York Court, speaking through the same Judge who had handled the suit involving U.S. 2,577,-710, refused to enjoin prosecution of the Virginia action and to hold Sales Affiliates in contempt, the main reason for the Court's decision appearing to be that it would be improper for the Court to enjoin prosecution of a patent infringement action based on a patent which was never subject to the court's jurisdiction. The Court stated that every patent constitutes a new cause of action which must be litigated anew.

*Richards & Cifelli, Newark, New Jersey

Government Reports on Patents

Three recent reports are believed to be of general interest to the readers:

The anti-trust subcommittee of the House of Representatives has issued a report entitled "Anti-trust Problems in the Exploitation of Patents", February 4, 1957. According to the press, the report states that no incompatibility between the patent laws and the anti-trust laws was found, it being only the patent owner who attempts to exploit his patent beyond its intended scope who loses his patent protection. The report states that "the present statutory scheme and judicial climate afford ample means for preserving the rights of patent owners in the legitimate exploitation of their property, while at the same time correcting patent abuse and safeguarding opportunities."

Two other recent reports, these compiled for the Senate subcommittee on patents, trademarks, and copyrights include a report by Mr. George E. Frost, entitled "The Patent System and the Modern Economy," and a report by Mr. P. J. Federico, Examiner in Chief of the Patent Office, entitled "Distribution of Patents Issued to Corporations."

Senator O'Mahoney, in commenting on Mr. Frost's report stated:

> This report discusses the present patent system as it relates to our modern economy and competitive philosophy and practices. Mr. Frost examines three major facets of that system: (1) its role in stimulating and extending research and development activities; (2) the relationship of the patent system to the antitrust laws; and (3) the administration of the patent system both in the Patent Office and in the courts.
>
> With respect to Patent Office administration, Mr. Frost finds serious problems of delay, inadequate processing of applications and complexity in procedure. He takes the view, however, that most of these difficulties can be cured by providing a more adequate budget and through some relatively specific correctives, such as affording protection to ideas through publication, simplification of interference practice and issuance of patents involved in interference without awaiting decision on priority. The situation, as he sees it, calls for specific, relatively minor curatives, not major surgery. As for patent litigation, here again he finds both expense and delay, but concludes that there are few problems that cannot be solved through firm and rigorous control of litigious practices by the presiding judge.
>
> While noting sympathetically other possible remedial devices, such as the twenty-year law, opposition proceedings and a special court to review patent matters, Mr. Frost warns against the damaging effects of well-intentioned, but inadequately considered, changes in the patent system. He urges, instead, a "go-slow" approach as indicated above, to be followed by further measures only if these more moderate correctives fail to do the job.

According to the United States Patents Quarterly, Mr. Federico's report contains a listing of corporations which had the largest number of patents issued to them during the period 1939-1955. It notes that in 1936 domestic corporations were issued 53.31 per cent of the patents issued in that year, whereas in 1955 the percentage was 52.85.

Copies of Mr. Frost's report may be obtained from the Superintendent of Documents, Washington, D. C., for 25c and copies of Mr. Federico's report may be obtained from the same source for 15c each.

Likelihood of Confusion of Trademarks

An ever-present problem for those involved in the creation and maintenance of trademark rights is the question of likelihood of confusion. The matter arises both from offensive and defensive considerations. For example, if one has a trademark for some time and finds that a competitor is using one very close to it, the prior user, generally speaking at least, will have to show that there is likelihood of confusion in order to prevail against the later user. Also, when one wishes to adopt and register a trademark, it is necessary to be able to show that there would be no likelihood of confusion between the adopted mark and any that have been registered. For this reason, the attitude of the U.S. Patent Office on likelihood of confusion is of great importance to trademark owners, particularly those seeking registration of trademarks and the preservation of the already-registered trademarks.

It is believed to be a rather well known fact today that the decisions of the Commissioner of Patents in trademark cases in recent years have shown a tendency to find that no likelihood of confusion exists wherever the goods involved move in different trade channels and possess different specific properties.

Two of the recent decisions along these lines are singled out here for comment:

1. "Dolamin," used for liquid medicine limited in its use to relief of neuralgic phases of somatic pain, for sale only for use by physicians, was held not likely to be confused with "Dolcin," for medicinal preparations for the treatment of all forms of rheumatoid state, for sale over the counter to the general public.

2. The use of the mark "Festival" on a cold waving solution, suitable only for sale to and use by professional beauticians and not for resale to customers, is not likely to cause confusion with the use of the same mark on perfumes, toilet waters and cosmetics, sold at retail over the counter to the general public.

Chemical Process Patents

As long-time readers know, we do not generally concern ourselves with patents involving chemical processing. However, due to the number of recent patents along these lines believed to be of general interest, we are marking an exception at this time and give below abstracts of some patents of this type.

U.S. 2,777,000

The ether of α-hydroxycumene and a saturated aliphatic primary alcohol containing one to six carbon atoms is prepared by reacting α-methylstyrene and the said alcohol in the presence of hydrogen chloride in an amount at least stoichiometrically equivalent to the α-methylstyrene, and recovering the said ether from the reaction mixture.

U.S. 2,777,001

Aromatic substituted methyl halides and especially alkoxybenzyl chlorides can be prepared by reacting the corresponding alcohol with a concentrated aqueous solution of the hydrohalide. This is most conveniently accomplished by carrying out the reaction in the presence of an inert reaction diluent. The process can be carried out at any desired temperature, however, best results will be obtained at temperatures below 25° C. Yields of over 90 per cent can be obtained when the process is carried out at from —10°C. to 10° C.

(*Continued on page 407*)

THE POPULAR

is NOW AVAILABLE IN A LARGER SIZE

because you asked for it!!!

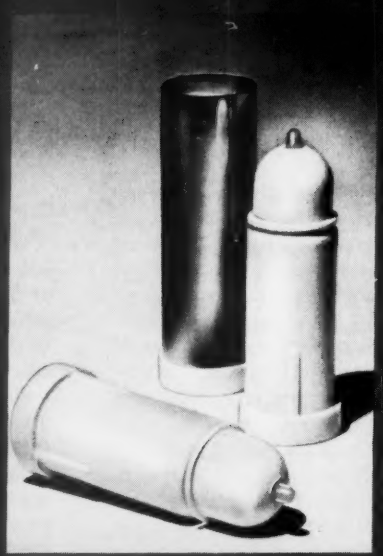
RICHFORD

TOUCH-N-FLO*

PURSE DISPENSER

U.S. PATENT

the 18 mm. TOUCH-N-FLO with our new Victoria Bottle



So dramatically successful in its small plastic container style with gold-metal cap.

And so practical in a glass bottle with slip-on brass cap version.

the NEW 18 mm. TOUCH-N-FLO fits *any* Bottle *with* 18/410 *Neck*. *Write now for samples and prices.*

Touch-n-Flo is ideal for cream perfumes or cream sachets, powder, liquid soaps, lotions, and deodordants — contents always flow with a touch, yet never leak.

RICHFORD

CORPORATION

OFFICE & PLANT: 3618 OCEANSIDE RD., OCEANSIDE, N. Y.

SHOW ROOMS: 350 FIFTH AVE., NEW YORK

NEWS...

Baxter Buys Wallerstein

Wallerstein Company, Inc., New York City, has been merged with Baxter Laboratories, Inc., Morton Grove, Ill., according to announcements by William B. Graham, Baxter Laboratories' president and Harold E. Smith, president of Wallerstein Company.

All outstanding stock of Wallerstein Company goes to Baxter Laboratories from Lehman Brothers, New York investment bankers, and associates for an undisclosed amount of cash and $1,800,000 of subordinated debentures convertible into Baxter common stock at $16 per share.

Anatole Robbins Sales Dir.

Leo V. Talamini has been appointed sales director for Anatole Robbins, according to Donald A. Breyer, president. Mr. Talamini will make his headquarters in New York City.

Executive vice-president of Parfums Schiaparelli for six years, vice-president of Elizabeth Arden Sales Corp. for two years, Mr. Talamini also was with Prince Matchabelli thirteen years as executive vice-president and general manager.

Organon Clin. Promotion Dir.

Kenneth N. Ericson has been appointed director of clinical promotion for Organon Inc. He has previously been associated with Alba Pharmaceuticals and was assistant to the medical director of Sandoz Pharmaceuticals, Inc.

KENNETH N. ERICSON

Donald Brogan Promoted

Donald E. Brogan has been appointed assistant manager of chain store sales in the New York headquarters of the National Brands Division of Sterling Drug Inc., according to J. N. Cooke, vice-president in charge of marketing and sales promotion.

With Sterling from 1948 to 1956 as a sales representative for The Chas. H. Phillips Company Division in southern California, Mr. Brogan continued in the same territory following Sterling's unification of the Phillips', Bayer and Centaur-Caldwell operations into the present National Brands Division.

Rhodia Perfumer

Michael J. Hickey has been appointed perfumer at the New Brunswick plant of Rhodia Inc. He has a B.S. in chemistry from Manhattan College, a L.L.B. from Fordham University, and he has completed graduate studies in food

MICHAEL J. HICKEY

technology at Massachusetts Institute of Technology.

Formerly technical director of the Perfume Division of Florasynth Laboratories, he was associated with William J. Stang as chief flavor chemist for three and a half years, with E. I. du Pont de Nemours & Co. as chemist in perfumes and flavors at the New Brunswick installation, and for ten and a half years, he was research chemist in flavors, perfumes and raw materials at Fritzsche Bros.

Pfizer Appoints Bouchard

Edward F. Bouchard has been appointed assistant director of the technical service department of Chas. Pfizer & Co., Inc., it has been announced by Dr. C. L. Wrenshall, the department's director. Arthur F. Leyden succeeds Mr. Bouchard as manager of the department's pharmaceutical section.

DR. KENNETH CARTER

Ames Scientific Director

Coordination of medical activities with the research and development program will be the principle function of Dr. Kenneth Carter, who has joined Ames Company, Inc. as scientific director.

Born in Morecambe, England, Dr. Carter received his pharmacy degree in 1937 after studying at Manchester University. Following a period in the pharmaceutical industry, he studied medicine and in 1947 became a member of the Royal College of Surgeons and Licenciate of the Royal College of Physicians.

Before joining Ames, he served with Smith, Kline and French International Company in Philadelphia, first as research consultant and then as director of development; he later was transferred to London as medical director and director of development to create new facilities for SKF in England.

In all, he has twenty-two years experience in the pharmaceutical industry and medicine in America, Britain, and Argentina.

Becco Organic Research Mgr.

Dr. Harold K. Latourette has been appointed manager of organic research and development at Becco Chemical Division, Food Machinery and Chemical Corporation, Buffalo, according to an announcement by Dr. Hans O. Kauffmann, Becco's technical director.

Dr. Latourette was previously a member of the staff of the Central Research Laboratories of F.M.C. in Princeton.

DCAT Dinner

Camille Chautemps, former French premier, spoke before the 31st Annual Dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, held March 7, at the Waldorf-Astoria Hotel, New York, on "The Mid East—Greatest Threat to Western Unity." The dinner was attended by 2600 men.

New officers of the Cosmetic Industry Buyers & Suppliers Association gather at first meeting of the year. Seated, left to right: John Duncan, Hazel-Atlas Glass, second vice-president; George Kaempkes, Pacquin, president; and William Jaeger, Park & Tilford, first vice-president. Standing, left to right: James Beyer, Lehn & Fink, director; Alan Stewart, Parfait Promotional Products, recording Secretary; David Warner, Fleuroma, director; Jack Jordan, Crown Cork & Seal, director; Lamson Scovill, Scovill Manufacturing, treasurer; and J. William Voit, George Lueders, corresponding secretary.

Classen Returns to Germany

R. M. Classen, manager of sales for Germany of L. Givaudan & Cie., S.A., Vernier-Geneva, Switzerland, left the United States March 2 after a two-month visit during which he studied Givaudan operations in the U.S. and observed trends in American perfumery as well as marketing and advertising methods.

Mr. Classen reviewed new aromatic chemical developments with the Givaudan research staff and studied their possible application to the European market. He also investigated the use of odor for industrial purposes in the United States.

Lewis R. Mott Retires

Lewis R. Mott, purchasing agent of The Norwich Pharmacal Company, retired in January after serving the company for 43 years. He joined Norwich in 1913 as a general clerk and was soon promoted to the purchasing department.

Appoint Kane to College Board

Dr. Jasper H. Kane, vice-president in charge of research and development for Chas. Pfizer & Co., Inc., has been appointed to the board of trustees of Adelphi College, Garden City, N.Y., it has been announced by Alger B. Chapman, chairman of the Adelphi board.

Squibb Creates Trenton Div.

Creation of a new E. R. Squibb & Sons unit—the Trenton Division—has been announced by W. L. Arscott, vice-president and director of sales. Mike F. Hornyak, formerly manager of Squibb's Baltimore Division, has been appointed Trenton manager, and Mark D. Carls, special products representative in the Philadelphia region, has been named Baltimore Division manager.

Findlan Is Geigy Sales Mgr.

J. C. Findlan has been promoted to sales manager of the Geigy Industrial Chemical Division, H. W. Zussmann, president of the division, has announced. Mr. Findlan has been field representative for G.I.C. since 1953, at which time the division was known as Alrose Chemical Company.

J. C. FINDLAN

Shulton Latin Amer. Meeting

Sales managers and representatives from Shulton, Inc. subsidiaries throughout Latin America, including Cuba, Mexico, Columbia, and Puerto Rico, met with executives of Shulton's International Division during the firm's second annual Latin American sales meeting, held recently in Mexico City.

Purpose of the meeting was to review 1956—the firm's most successful year—and to outline sales, promotional and advertising plans for 1957. Shulton anticipates a substantial increase in sales in the coming year as a result of increased advertising and promotional schedules and the introduction of several new products in the Latin American market.

International Division executives attending were: David Gregg Jr. manager; Frederic Rowe, sales manager; Claude Forter, advertising manager; John Hickling and James Hatton, assistants to the sales manager. William O'Brien, Shulton's controller and assistant treasurer also attended.

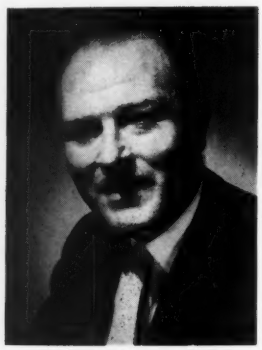
Massengill Appointments

M. Joe Hardwick has been promoted to assistant advertising manager of S. E. Massengill Company, and William N. Smith has been appointed to the firm's marketing department.

Mr. Hardwick joined the company in 1948 as a chemist in the control laboratory, and for the past three years has been in the marketing department. Mr. Smith will be in charge of conventions and trade relations.

Shulton Appoints Three

Dr. Franklin T. Peters has been appointed assistant manager of the Fine Chemicals Division of Shulton, Inc., and Richard T. Knies has been appointed head of the musk department at the firm's Newark plant. Edward Diehl has been named public relations manager for Shulton.



DR. FRANKLIN T. PETERS

Duche Marks 100th Year

T. M. Duche & Sons, Inc. is observing its 100th anniversary. The firm was founded in England in 1857 by Tristan-Mathieu Duche, a French refugee, who had represented the Loire Constabulary in France but had been exiled because of his opposition to the seizure of power in 1851 by Napoleon 111, a fate Mr. Duche shared with his colleague and friend, Victor Hugo.

The New York branch was opened in 1879, and subsequently branch offices were established in Chicago, Boston, and Cleveland, and sales representatives were appointed for other cities.

Significant in the success of Duche & Sons is that many employees and executives have been with the company for between 25 and 45 years. The officers for the past 25 years have been:

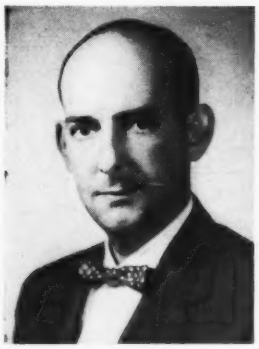
W. F. Graessle, president; R. Kaiser, vice-president, gum department; J. L. Johnson, vice-president, gelatin department; E. V. Woollard, vice-president and Central U. S. manager; M. Karp, vice-president, New England Manager; R. W. Graessle, vice-president, Organized California Shelling Operation.

CSC Elects Two Vice-Pres.

J. F. Dudley and Graham W. McMillan, Ph.D., have been elected vice-presidents of Commercial Solvents Corporation. Mr. Dudley, formerly CSC's chief engineer, will head the company's production and engineering activities. Dr. McMillan, formerly manager of development, will be responsible for the company's research and development program and operation of CSC's Central Research Laboratories at Terre Haute, Ind.

Joins Alcolac Devel. Dept.

Alvin Holzberg has joined American Alcolac Corporation's development department. He will be headquartered in Alcolac's New York offices.



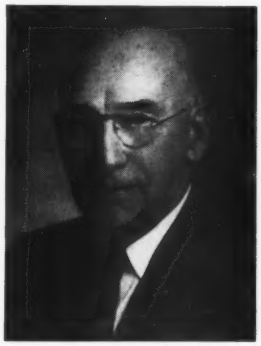
DR. KENYON J. HAYES

Philip De C. Kratz, right, formerly of the research and control laboratories of The Hoffman Beverage Company and recently appointed to the technical and development staff of the Alva Flavors Division of van Ameringen-Haebler, Inc., discusses a new development in the Alva Flavor Laboratories, Elizabeth, N. J., with Dr. James H. McGlumphy, vice-president of van Ameringen-Haebler.

R. G. Anderson Retires

Raymond G. Anderson, manager of the Philadelphia branch office of the Chemical Division of Merck & Co., Inc. since 1925, retired March 1 after 42 years of service with the company.

Employed on January 1, 1915, Mr.



RAYMOND ANDERSON

Anderson worked in various capacities in the company's home office in Rahway, and in Montreal and St. Louis before returning to his native Philadelphia in 1925. He served with the U. S. Marine Corps during World War I.

Norwich Research Heads

William B. Stillman, Ph.D., formerly research director of The Norwich Pharmacal Co., has been named to the newly created position of administrative research co-ordinator and will be responsible for co-ordination of all basic, medical, and pharmaceutical research. Kenyon J. Hayes, D.Sc., will be Norwich's new director of chemical and biological research.

Guenther Makes Film Record Of B.W.I. Essential Oil Ind.

A motion-picture record of essential oil production in the West Indian and Caribbean areas has been made by Dr. Ernest Guenther, vice-president and technical director of Fritzsche Brothers, Inc., who returned this month from an on-the-spot survey.

The films he has brought back are in the nature of a progress report since he made a motion-picture survey of the areas in 1953 at which time the young essential oil industry was experiencing growing pains. A series of illustrated lectures to be presented in Canada has been scheduled for Dr. Guenther.

De Laire Returns to Paris

Francois de Laire returned to Paris last month after a four-week stay in the United States, during which time he called on accounts of De Laire, Inc. Among cities he visited from his headquarters in New York, were Cincinnati, St. Louis and Montreal.

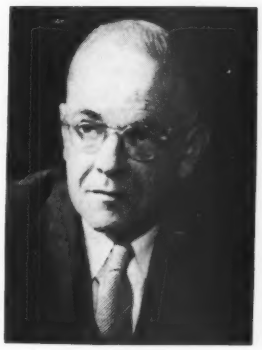
Further Endo Expansion Plans

Joseph Ushkow, president of Endo Laboratories, recently visited Los Angeles to inspect the new Endo building in that city. He also went to Mexico City to further plans for a new Endo headquarters there.

David L. Klein, treasurer of Endo, recently returned from a trip abroad where he visited France, Italy, Spain, and Portugal, consulting with various organizations and principals in connection with expanding international operations of Endo.

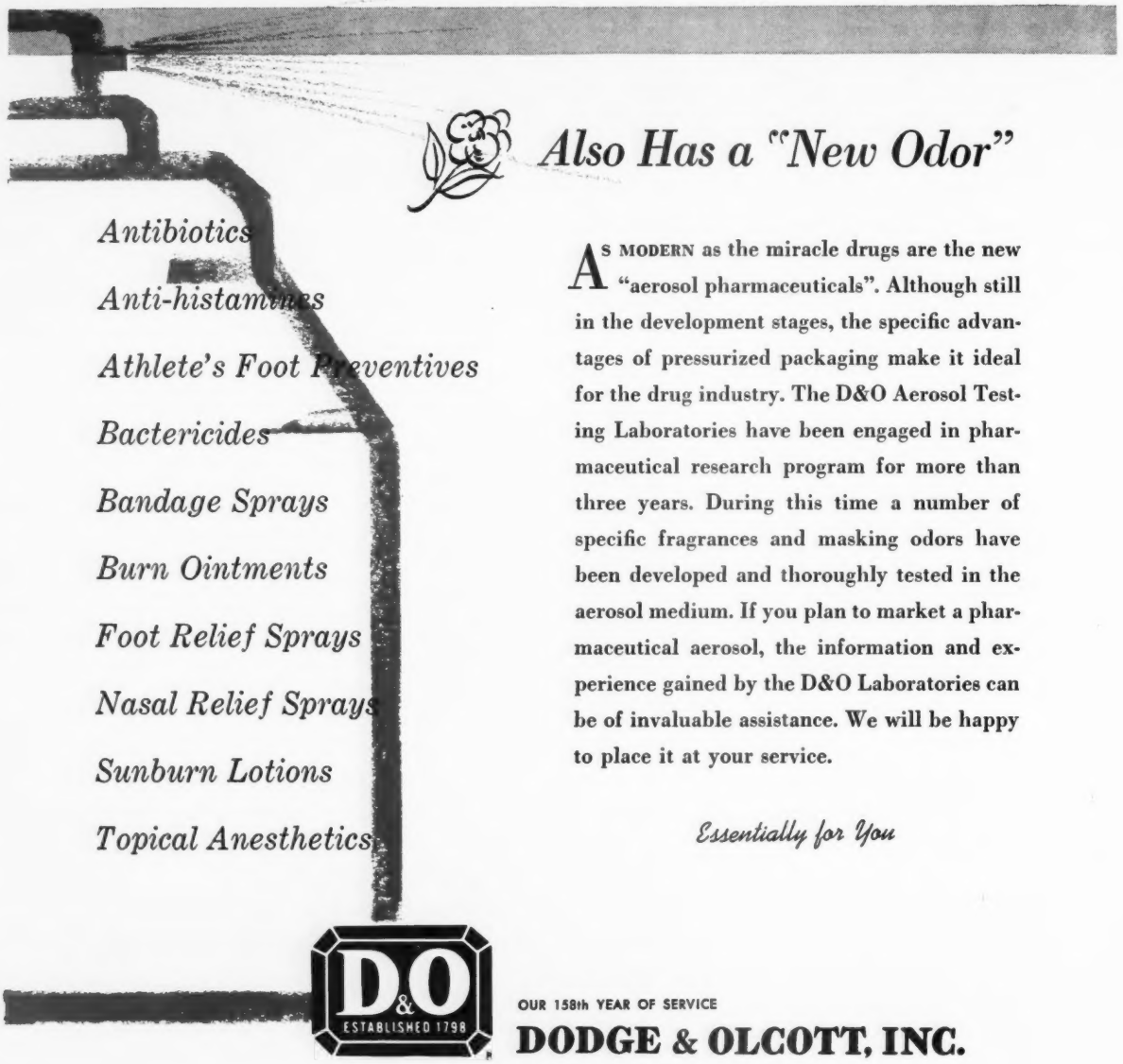
Emery Sales Representative

Paul N. Leech has been appointed sales representative in the Mid-Atlantic sales territory of Emery Industries, Inc., G. W. Boyd, sales manager of Emery's fatty acid sales department, has announced.



DR. WM. B. STILLMAN

THE *New Look* IN PHARMACEUTICALS



Also Has a "New Odor"

Antibiotics
Anti-histamines
Athlete's Foot Preventives
Bactericides
Bandage Sprays
Burn Ointments
Foot Relief Sprays
Nasal Relief Sprays
Sunburn Lotions
Topical Anesthetics

AS MODERN as the miracle drugs are the new "aerosol pharmaceuticals". Although still in the development stages, the specific advantages of pressurized packaging make it ideal for the drug industry. The D&O Aerosol Testing Laboratories have been engaged in pharmaceutical research program for more than three years. During this time a number of specific fragrances and masking odors have been developed and thoroughly tested in the aerosol medium. If you plan to market a pharmaceutical aerosol, the information and experience gained by the D&O Laboratories can be of invaluable assistance. We will be happy to place it at your service.

Essentially for You

D&O ESTABLISHED 1798

OUR 158th YEAR OF SERVICE

DODGE & OLCOTT, INC.

180 Varick St., New York 14, N. Y.

Sales Offices in Principal Cities

Essential Oils
Aromatic Chemicals
Perfume Bases
Flavor Bases
Dry Soluble Seasonings

Sublett in New Post

Coulter R. Sublett, in sales activities for Eli Lilly and Company since 1935, has been transferred to the home office in Indianapolis to succeed James E. Koffenberger as administrative assistant to A. J. W. LeBien, vice-president in charge of marketing.

Mr. Koffenberger is studying advanced management at Harvard University until May 17 under a Lilly plan which supplements in-plant training and on-the-job development programs. Following his return to Lilly, he will be given added experience through reassignment as administrative assistant to Burton E. Beck, executive director of personnel and public relations.

For the last eight months Mr. Sublett has been manager of the Southeast District, with headquarters in Atlanta. He has been a district manager since 1949, his earlier assignments being in the Houston and Charlotte districts.

Chanel "For the Purse" having been voted best in the cosmetic category of the Package Designers Council's Third American Package Design Competition, H. Gregory Thomas, right, president of Chanel, receives a first-award certificate from Karl Fink, vice-president of the Council. Looking on is Edward Thornhill, purchasing agent for Chanel.

Abbott Appointments

Frederick J. Kirchmeyer, who has headed pharmaceutical research at Abbott Laboratories since 1946 and has held the title of director of new product coordination since 1954, has been appointed director of new products. He will head the new product program within the firm's Scientific Divisions.

Dr. Arthur W. Weston, former assistant director of development, has been named director of research, succeeding Dr. Robert D. Coghill, who has resigned from this position in the Scientific Divisions and is serving the company as a consultant until April.

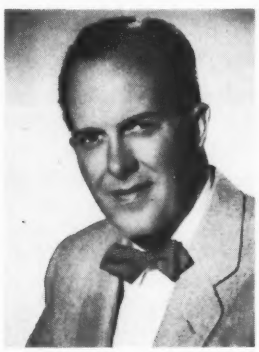
Basic research under Dr. Weston will be conducted in three major areas, headed by the following: Dr. Marlin T. Leffler, director of chemical and agricultural research; Richard K. Richards, M.D., director of experimental therapy, and Dr. John C. Sylvester, director of microbiological research. They and Dr. Marvin Spielman, director of research evaluation, will direct the basic research activities of the company.

Dr. Kenneth Hamlin, head of organic chemistry, has been appointed assistant director of chemical research. Dr. Merlin H. Peterson has been named head of a newly created department of microbial physiology.

In the medical department, George H. Berryman, M.D., and Rodney Gwinn, M.D. were named assistant directors for medical projects. Brian Lees, M.R.C.P., will head a new section on product information.

Dr. Robert W. Rivett has been named assistant to the director of development, and LeRoy W. Clemence, formerly administrative assistant to the director of research, has become manager of laboratories on the staff of Elmer B. Vliet, vice-president and scientific administrator.

F. J. KIRCHMEYER



DR. ARTHUR W. WESTON

Huisking Buys Gray Plant

William W. Huisking, president of Clintbrook Chemical Co., Inc., Chas. L. Huisking & Co. Inc.'s manufacturing unit, has announced the purchase of William S. Gray & Co. property and facilities at Lyndhurst, N. J.

On the fifteen acres are a railroad siding, a tank storage capacity of one million gallons, and equipment designed for the storing, drumming and blending. of chemicals, oils, and related materials.

Buildings will be constructed to facilitate the rapidly expanding operations of the Clintbrook firm. The operations heretofore carried on by the Gray organization at this location will be continued by the new owners, and Gray's personnel will become affiliated with Clintbrook Chemical Co. Inc.

Salsbury's Labs Appoints

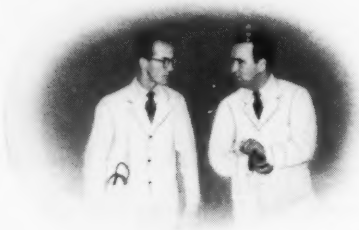
Dr. Oliver H. Peterson has been named director of research of Dr. Salsbury's Laboratories, according to Dr. John G. Salsbury, vice-president and general manager. With the firm since 1946, Dr Peterson was formerly head of the department of microbiology

Dr. James F. Harr, former head of the department of veterinary pathology, has been placed in charge of biological production. Dr. Reed R. Rumsey has been appointed head of the department of veterinary pathology, and Dr. Milan Mitrovic, head of the department of microbiology.

Progress Report

from **HOFFMANN-LA ROCHE**
vitamin division

If you use *pyridoxine* in your formulae ... *this message is important!*



Increasing interest among MD's
Continued widespread interest in the pharmaceutical industry and the medical profession reaches new heights with release of information at the symposium on "Newer Vitamins" held under the auspices of the National Vitamin Foundation at Vanderbilt University. The importance of pyridoxine in the field of nutrition is emphasized.

Metabolic imbalance in pregnancy
Its particular role in the metabolism of tryptophane and other amino acids may be significant in correcting certain metabolic imbalances know to exist in some pregnancies.

Important in infant feeding
Already proven vital in infant feeding, new evidence suggests that it may be important in preventing some congenital malformations.

Now is the time to re-examine your formulae in relation to proper pyridoxine content. Feel free to call on Roche for technical assistance. Our staff is always ready to help.

Quick reasons for your choice of Pyridoxine 'Roche'

Quality—Equals or exceeds U.S.P. standards. May be used for parenterals.

Uses—Ideal for all types of pharmaceutical formulations.

Supply—Need a gram . . . or a ton? Roche will supply you.

Delivery—Strategically located warehouses insure fast service.

Packaging—Polyethylene bags sealed with saf-t-tag. In ½ and 1 kilo tamperpruf metal containers. Larger quantities in fibre drums; small in amber s.c. bottles.

Samples?—Ask your Roche salesman or write the Vitamin Division.

Call **ROCHE** *for VITAMINS*

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Pacific Coast distributor: L. H. BUTCHER COMPANY, San Francisco, Los Angeles, Seattle, Portland, Salt Lake City
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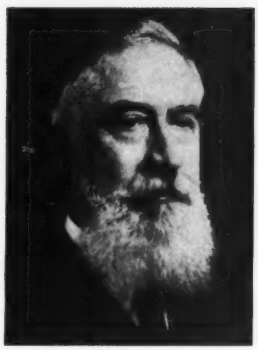


XAVIER GIVAUDAN

Xavier Givaudan Marks 90th Year; Receives French Honor

Xavier Givaudan, chairman of the board of Givaudan-Delawanna, Inc. and active head of the world-wide Givaudan organization, recently celebrated his ninetieth birthday. Guest of honor at a reception given by members of the international Givaudan plants who gathered in Geneva, he received from the Ambassador of France, in the name of the President of the Republic, the Cravate of Commander of the French Legion of Honor.

Kepford Is Liggett Pres.

Election of Ira C. Kepford as president of the Liggett Drug Company has been announced by Justin Dart, president of the Rexall Drug Company. Mr. Kepford, formerly vice-president of Liggett, fills the vacancy left by the resignation of Ade Schumacher.

Mr. Kepford, a native of Muskegon, Mich., served as a Navy fighter pilot during World War II. Credited with sixteen Japanese planes shot down, plus ten probables, he received two Navy Crosses, a Silver Star and three Distinguished Flying Crosses.

Mr. Schumacher, who will announce his new business connection soon, will continue as a member of Rexall's board of directors.

E. A. BOWLES

MS&D Ltd. Buys UK Firm

Merck Sharp & Dohme Limited has acquired all the outstanding shares of the chemical firm, Thomas Morson & Son Ltd., Ponders End, England.

The Morson company, whose annual sales are more than $1,000,000, produces a line of fine chemicals for the pharmaceutical and other industries. Its plant, nine miles from the Merck Sharp & Dohme operation at Hoddesdon, occupies a site of nearly seven acres and provides room for expansion.

Morson will be conducted as a separate organization under its own name. Its acquisition will make possible local production of several Merck Sharp & Dohme products. Market development of these products in England has been limited up to now by import restrictions and lack of basic production facilities in that country. It will also strengthen the export activities of Merck Sharp & Dohme Limited.

Dr. Edw. E. Swanson Retires

Edward E. Swanson, D.Sc., head of Eli Lilly and Company's bio-assay department, completed nearly 40 years of service with Lilly when he retired January 31.

Author or co-author of more than 75 published scientific papers on the pharmacology of such drugs as digitalis, the barbiturates, and vasoconstrictors, he contributed to the development of Insulin and, more recently, has done important work on curarelike substances.

When Dr. Swanson received an honorary Doctor of Science degree from Butler University in 1955, the citation referred to him as "a noted Pharmacist and renowned Pharmacologist who has made exceptional contribution to both professions and one whose researches have benefited all mankind."

Since 1929 Dr. Swanson has lectured on bio-assay and pharmacology as a member of the faculty of the Butler University College of Pharmacy. He plans to continue teaching at Butler.

Laporte Amer. Home V.P.; Bowles Whitehall President

William F. Laporte has been elected vice-president of American Home Products Corporation, and Elliott A. Bowles has been elected president of Whitehall Pharmacal Company, according to an announcement by Alvin G. Brush, chairman of American Home. Mr. Laporte was president of Whitehall Pharmacal, and Mr. Bowles, executive vice-president.

W. WARD JACKSON

Jackson Is CSC Sales V.P.

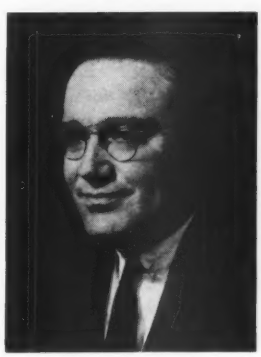
W. Ward Jackson, vice-president of Commercial Solvents Corporation, has been named to head the company's sales and marketing activities, it has been announced by J. Albert Woods, president. Mr. Jackson was previously vice-president of CSC's Petrochemicals Division. In addition to overall sales, his new responsibilities will include advertising and sales promotion, market development and traffic activities.

C and C Promotes Alcorn, Hall

D. S. Alcorn has been appointed assistant manager, and Dr. T. J. Hall, product manager of fine chemicals, according to an announcement by W. A. Woodcock, manager of the fine chemicals department of Carbide and Carbon Chemicals Company.

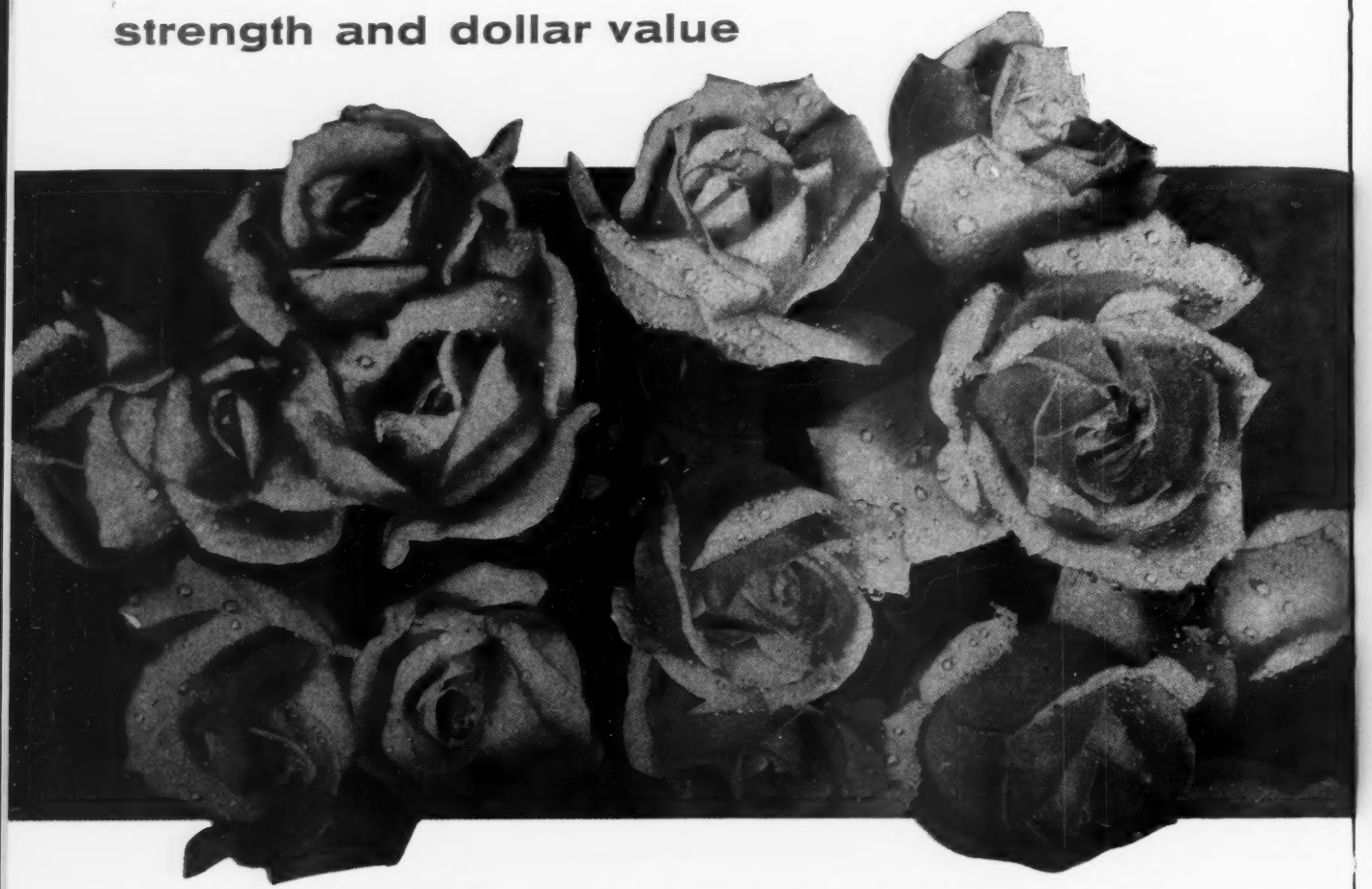
With the company since 1943, Mr. Alcorn, except for a leave of absence from 1944 to 1946 for U.S. Navy service, has been associated continuously with marketing and product development.

Dr. Hall joined Carbide and Carbon in 1952 after receiving his Ph.D. from the University of Rochester. His particular areas of interest have been acrolein and reactive peracetic acid and their derivatives, and he has been intimately concerned with use of these products for polymers and pharmaceuticals.



W. F. LAPORTE

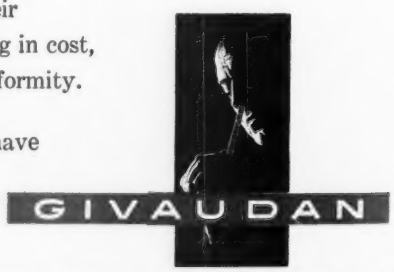
ROSYNTHIA . . . unsurpassed in lasting floweriness, strength and dollar value



ROSYNTHIA . . . a new Givaudan creation, offers tremendous value to the creative perfumer.

Developed after long study of the chemical constituents of natural rose, ROSYNTHIA has all the qualities needed in a specialty of this type . . . floral strength, odor value and lastingness. It can be used as an excellent extender or as a replacement for natural Otto of Rose and Rose de Mai Absolute, having their complementary qualities while offering a large saving in cost, plus the assurance of continued availability and uniformity.

This new development is the latest of many which have established Givaudan as a leader in the field.



Better perfume materials through constant research and creative ability

GIVAUDAN-DELAWANNA, INC.
330 West 42nd Street • New York 36, N.Y.

Branches: Philadelphia • Boston • Cincinnati • Detroit
Chicago • Seattle • Los Angeles • Toronto

L. J. THOMPSON

Van Dyk Western U.S. Reps

E. H. Southwell Company, 5957 South Western Avenue, Los Angeles 47, specialists in containers for the cosmetic, food, plastics, and chemical industries, have been appointed representatives in the Western United States for Van Dyk & Company, Inc.

Benjamin Kapp, who has been selling to the perfume and cosmetic trade on the West Coast for the past 25 years, will head Southwell's aromatic and cosmetic raw materials division.

Honor Dr. Yves-Rene Naves

For his work in essential oils, synthetic aromatics and related products, Dr. Yves-Rene Naves, director of research of L. Givaudan & Cie., S A. of Geneva, has been nominated an honorary member of the Comitato Italiano di Estetica e Cosmetologia (Italian Committee of Aesthetics and Cosmetics).

Pepsodent Toothbrush Mgr.

David E. Burge has been appointed manager of the Pepsodent toothbrush line, according to T. E. Hicks, marketing vice-president of Lever Brothers Company's Pepsodent division. Mr. Burge was formerly director of department store and chain drug sales for the Tek-Hughes Division of Johnson and Johnson.

Promoted by Warner-Chilcott

Glenn Hastings has been promoted to special assistant to the sales manager of Warner-Chilcott Laboratories and will be in charge of sales training and the development and testing of sales promotion methods.

Gould in Central America

S. H. Gould, vice-president of the American Pharmaceutical Company, left February 8 for an extended business trip throughout Central America.

Teller, Thompson Promoted

W. Kedzie Teller has been appointed to the newly created position of executive vice-president of Pharma-Craft Company, and L. J. Thompson has been named vice-president in charge of sales, according to Frank F. Bell, president.

Fossel Joins Frohlich

Spencer M. Fossel has been appointed director of marketing for L. W. Frohlich & Co., Inc. A past president of the Pharmaceutical Advertising Club, Mr. Fossel has been director of clinical promotion for Organon Inc. and director of marketing for Sandoz Pharmaceuticals.

Mallinckrodt Names Kuehne

E. Richard Kuehne has been appointed regional sales manager, it has been announced by W. S. Keutzer, Western Division sales manager of

E. RICHARD KUEHNE

Mallinckrodt Chemical Works. Chicago district sales manager for Mallinckrodt since 1954, Mr. Kuehne, in his new position, will have the added responsibility of supervising sales in Minnesota, North Dakota and South Dakota.

J. J. Toohy, general manager, E. R. Squibb & Sons, presents a service pin to Austin J. Heberger, manager, marketing department, who is observing his 30th year with the company.

W. KEDZIE TELLER

Becco Promotes, Assigns

Promotions and new assignments within the sales department of Becco Chemical Division have been announced by Dewey H. Nelson, sales manager.

Matthew A. Noonan, since 1946 manager of the Philadelphia territory, has been promoted to New York district manager, and will now have charge of both the Philadelphia and the New York territories which are being consolidated.

Paul U. Bretschger, field representative in the Western New York territory, has been promoted to manager of this territory, which has now been enlarged to include upstate New York and western Pennsylvania. Edward M. Roth has been appointed assistant New York manager.

George J. Motz has been added to the New York area sales staff; Eugene M. McMahon has been assigned as field representative in the Philadelphia area; Richard T. Mould has been appointed to the Midwest district sales staff in Chicago; Bruce J. Bishop has been assigned to the Southern territory office in Charlotte, N. C.

Beesley on NIC Board

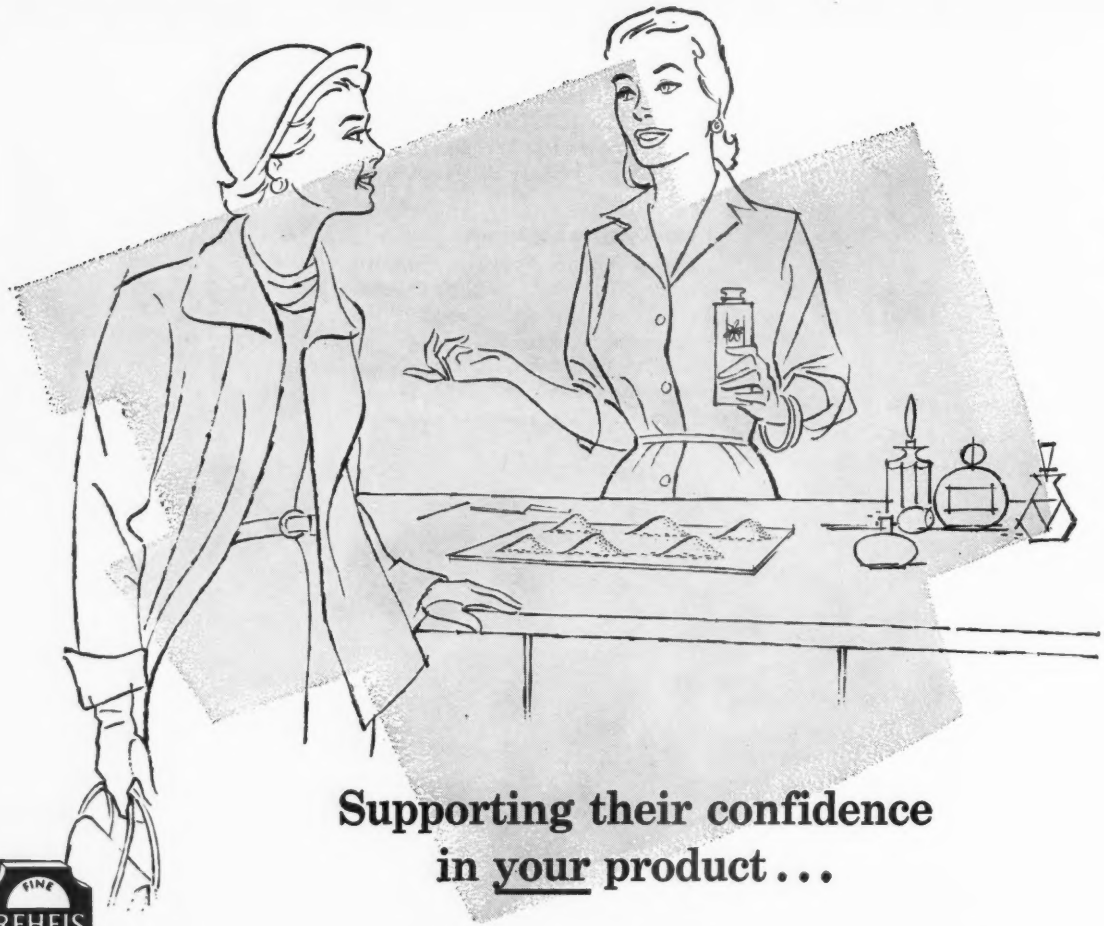
Eugene N. Beesley, president of Eli Lilly and Company, has been elected a board member of the National Industrial Conference Board for a one-year term.

Mead Johnson Vice-Pres.

S. William Kapranos has been elected to the new position of vice-president for product planning of Mead Johnson & Company.

Vanderhoef Is Vice-Pres.

H. K. Vanderhoef, in charge of the market development program of Kay-Fries Chemicals, Inc. since 1953, has been appointed vice-president in charge of sales.



Supporting their confidence in your product . . .

BASIC ANTI-PERSPIRANT INGREDIENTS

Safe, effective, easily incorporated types—for every product variety

FOR CREAMS, LOTIONS, POWDERS AND SPRAYS: Chlorhydrol	FOR GELS Chlorhydrol S-5	FOR STICKS Chloracel
(aluminum chlorhydroxide complex) Available in 5 forms . . . granular, fine, medium, impalpable, 50% w/w solution.	(aluminum chlorhydroxide complex—modified) In solid form for alcohol type . . . grease and gum free gels.	(sodium aluminum chlorhydroxy lactate complex) Available as a 40% w/w solution for use in making cologne-type sticks. Compatible with soaps.

REHEIS ANTI-PERSPIRANT CHEMICALS OFFER ALL THESE ADVANTAGES

- effective anti-perspirant action
- fine deodorant qualities
- non-destructive to fabrics
- non-irritating to skin
- no buffering required

Write for free data and samples

REHEIS COMPANY, INC.
Manufacturers of Fine Chemicals
BERKELEY HEIGHTS • NEW JERSEY

3982

Cyanamid Appointments

Sales and technical departments of American Cyanamid Company's Fine Chemicals Division were recently reorganized. Thomas L. Floyd-Jones has been appointed general sales manager and Raymond W. Cunningham, Ph.D., has been named technical director, according to an announcement by J. H. Ruskin, division general manager. Other appointments include:

H. W. Bajak, advertising and sales promotion manager; H. O. Stark, manager, special sales; G. I. Trull, export sales manager; R. Vasquez, assistant to export sales manager; F. Berg, associate technical director; C. B. Johnson, sales service manager; W. S. Cockrell, sales service supervisor; and J. C. O'Neill, supervisor, budgets and statistics.

Mr. Floyd-Jones joined Cyanamid in 1942 as manager of chain store and wholesale sales for Lederle Laboratories and later was appointed manager of markets. In 1954 he became manager of pharmaceutical sales for the Fine Chemicals Division.

Dr. Cunningham joined Lederle in 1943 as director of pharmacological research, and in 1956 he became director of pharmaceutical development in Cyanamid's Fine Chemicals Division.

Dr. Dan Dahl Retires

Dr. Dan Dahl, assistant vice-president in charge of product planning of Bristol-Myers Products Division, retired March 1, after eleven years service with the company.

A graduate of Chalmers Institute of Engineering, Gothenburg, Sweden, country of his birth, he received his M.S. and Ph.D. degrees from American University.

After filling posts with several chemical companies, Dr. Dahl became Assistant State Chemist of the State of Florida in 1924. In 1928, he became Chief Chemist of the U. S. Food and Drug Administration in Savannah, and in 1932, he was transferred to Washington, D. C. Dr. Dahl was made Chief of the Cosmetic Division of the U. S. Food and Drug Administration in 1938, a post he held until 1946 when he joined Bristol-Myers as director of research.

Union Pharm. Appoints

Robert B. Teuscher has been appointed manager of sales and office services for Union Pharmaceutical Company, Inc., according to M. A. McDaniel, vice-president and general manager.

DR. AUSTIN H. KUTSCHER

Squibb Assoc. Med. Dir.

Dr. Austin H. Kutscher has been appointed associate medical director in the Medical Division of E. R. Squibb & Sons. He will supervise the dentistry research program in Squibb's Institute for Medical Research, New Brunswick, N. J.

A.A.A.S. Vice-President

Robert C. Anderson, D.Sc., head of Eli Lilly and Company's toxicology department, has been elected vice-president of the American Association for the Advancement of Science and chairman of its pharmaceutical sciences section.

Merrell Hospital Mgr.

Charles W. Gill has been appointed hospital manager of the Wm. S. Merrell Company, Frank T. Jacobs, director of marketing, has announced.

Toni Lab Director

Dr. Ray C. Houtz has been appointed laboratory director of the Toni Division, according to Raymond E. Reed, Toni vice-president of technical operations. Dr. Houtz, who previously served as Toni's director of basic research and operations, joined the company April, 1954.

DR. RAY C. HOUTZ

Chem. Engr. Joins Endo

Harry Barron, a chemical engineer, has joined the technical staff of Endo Laboratiores. For several years he had his own consultant practice, and he is a former vice-president of United Distillers of America.

Raymond W. Albright

Raymond W. Albright, 62, vice-president and general manager of the Distillation Products Industries Division of Eastman Kodak Company, died February 19 in Strong Memorial Hospital, Rochester.

Mr. Albright was formerly with the B. F. Goodrich Rubber Company and American Anode, Inc., of which he was president and general manager. He was also chairman of the board of trustees of Hobart and William Smith Colleges.

Surviving are his wife, Mrs. Ruth Albright; a son, Raymond Jr.; and a daughter, Mrs. Roger A. Wollenberg.

Richard Van Saun Hillier

Richard Van Saun Hillier, for many years a sales executive with S. B. Penick & Company, died at his home in Lancaster, Pa., February 9. He was 61 years old.

Mr. Hillier had been retired from active business almost a year due to ill health, and had only recently moved to Lancaster from New York City.

A son of the late Fred B. and Maud Van Saun and a grandson of the late George R. Hillier of R. Hillier's Sons Company, he graduated from high school in 1914 and joined his grandfather's firm.

During the first World War Mr. Hillier served in France as an officer in the Balloon Observation Corps. At the end of the war he rejoined R. Hillier's Sons Company and continued his association with this company after its acquisition by S. B. Penick & Company in 1931.

Mr. Hillier is survived by his wife, Mrs. Edna Hillier, two sons, six grandchildren, a brother and three sisters.

Kenneth W. Merkel

Kenneth W. Merkel, long associated with the perfume and essential industry, died early this month. Mr. Merkel was for many years with Ungerer & Co., for five years with a manufacturer of cosmetics, then with George Leuders & Co., and for many years as perfumer for Colgate-Palmolive Company.

HOW TO MAKE A

PRETTY PROFIT

You can't help being successful when your products are perfumed for profit. ORBIS scents begin by saving you money. ORBIS *quality* helps you make more money.

Choose your odors from an ORBIS series. You'll find the right scent at the right price for the right profit.

Write on your letterhead for manufacturers' samples. Send today for the ORBIS catalogue of good products that give *your* products more profits.

SERIES NO. 300 ORBIS ODORS

Bouquet CH	Gardenia	Millefleurs
Bouquet TB	Heliotrope	Muguet
Bouquet Kashmiri	Honeysuckle	Narcisse
Carnation	Jasmin	New Mown Hay
Chypre	Jockey Club	Rose
Cologne	Lavender	Sweet Pea
Divinia	Lilac	Violet
Florida		Wistaria

Always at these low ORBIS prices:

25 and 50 lb. cans	$3.00 per lb.
5 lb. bottles	3.15 per lb.
Trial Pounds	3.25 per lb.

SERIES NO. 600 ORBIS ODORS

Bouquet CH	Divinia	Millefleurs
Bouquet de Oriente	Florida	Muguet
Bouquet Kashmiri	Gardenia	Narcisse
Bouquet Parisienne	Heliotrope	Neroli
Bouquet TB	Honeysuckle	New Mown Hay
Chypre	Jasmin	Oriental
Cologne	Jockey Club	Rose
Corylopsis	Lavender	Sweet Pea
Crechene	Lilac	Violet
Cuir de Russie	Magnolia	Wistaria

Always at these low ORBIS prices:

25 and 50 lb. cans	$6.00 per lb.
5 lb. bottles	6.15 per lb.
Trial Pounds	6.25 per lb.

OTHER ORBIS PRODUCTS

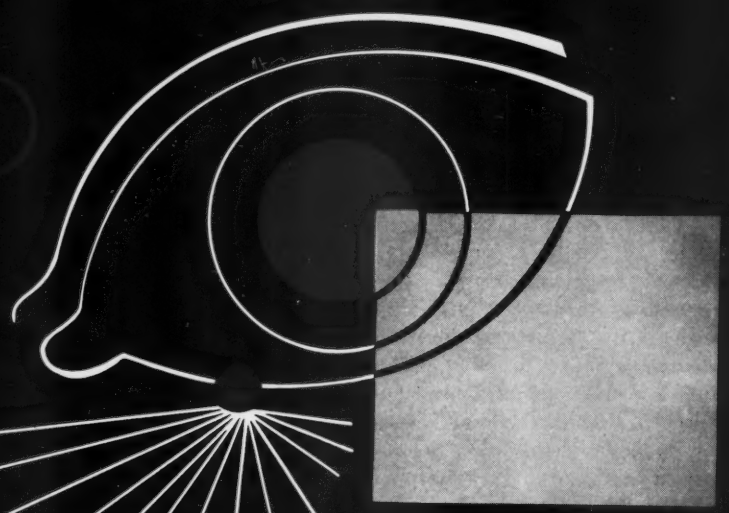
Essential Oils	Aromatic Chemicals
Perfume Bases	Cosmetic Raw Materials
Fruit Flavors	Water Soluble Gums
Oleo Resins	

NEW YORK
CHICAGO
BOSTON
MEMPHIS

ORBIS has all the essentials

ORBIS
PRODUCTS
CORPORATION
601 W. 26th STREET
NEW YORK

seeing . . .
is NOT believing!



Deceptive illusions
have led many a producer
to a disappointing mirage . . .
mediocre products that
lack consumer appeal . . .

. . . may be enough for the "Man from Missouri" . . .

. . . when your entire effort is aimed towards a trial of your products — when each new customer presents an opportunity for your product to sell itself — then, for those producers who demand distinctive product recognition —

we recommend our fragrances . . .
expertly blended to enhance your products with point-of-sale appeal!

Albert Verley and Company

1375 EAST LINDEN AVENUE, LINDEN, NEW JERSEY
1018 S. WABASH AVENUE, CHICAGO 5, ILLINOIS
21 EAST 40th STREET, NEW YORK 10, NEW YORK
MEFFORD CHEMICAL CO.
1026 SANTA FE AVE., LOS ANGELES 21, CALIF.

V
Your Key to an Exciting Future

Synthetic Aromatic Products and Organic Isolates
Synthetic Flower Oils and Aromatic Bases
Bouquets and Finished Compositions.

ALBERT VERLEY AND COMPANY

SEND FOR SAMPLES
RC 396 . . .
$12.00 per lb.

(*Continued from page 305*)

Merck-Sharp & Dohme) offer the physician a refinement in the treatment of hypertension. Other new single products which deserve to be mentioned are Flexin (zoxazolamine, McNeil), Kemadrin (procyclidine, Burroughs-Wellcome) two muscle relaxants; Dyclone (dyclonine, Pitman-Moore) a local anesthetic, and Preludin (phenmatrazine, Geigy) a reducing agent developed in Germany.

Of the total of forty-two new single chemical entities introduced in 1956, eight have been developed in Europe and six are marketed by firms owned by European parent companies, indicating that for one-third of these new products at least part of the research was carried out outside the United States.

The table on page 305 indicates that compounded products have been, and still are, dominating the market today. A review of the new products suggests that marketing vitamin combinations is still very popular: for the young, the pregnant, and the aged. Forty-seven new products of this type and eleven hematinics were introduced in 1956. Rauwolfia in its various forms was only incorporated in twenty new combination products, a reduction from previous years. Colds are still being bombarded with antihistamines to which seven bioflavonoid products have been added. Previously available urinary antiseptics did not seem to be sufficiently effective and eleven new combinations have been introduced; most of these contain phenylazodiamino-pyridine which was originally introduced as Pyridium.

This presentation cannot claim absolute completeness but gives a broad picture of the types of products that have been introduced in 1956.

PROCTER & GAMBLE

(*Continued from page 307*)

Only three individuals report to the president. It is company practice to have less than seven men reporting to a top executive, division superintendent, superintendent, or supervisor. This short span of control reflects management's intense concern from the president down with face-to-face communication between a man and his immediate supervisor. The low ratio of subordinates and the stress on communication permit the company to achieve a remarkable degree of managerial control, speed in acting, and opportunity for forward thinking.

The company operates its business in the United States—about 80 per cent of the total—directly from Cincinnati. Domestic operations comprise thirty-four plants and mills located in twenty states, employing more than 18,000 selected personnel. Overseas, the company has plants in twelve countries, and 8,000 additional employees.

For general purposes, management has regrouped its multitude of operations into three principal lines of authority, each headed by one of the men reporting directly to the president. The administrative vice president—who can properly be referred to as "the executive housekeeper"—has authority and responsibility over accounting, finances, taxes, budgeting, insurance, public relations, legal matters, office management, recruitment, and the like. There are two executive vice presidents, with clearly assigned spheres of operating authority. Each is responsible for consumer products and their related industrial products.

One has charge of the oil-crushing, cellulose, and overseas operations. The other is in charge of all U. S. operations involving the three domestic divisions of the company. These are Soaps and Detergents, Food Products, and Toilet Goods.

This executive vice president heads the Soaps and Detergents division himself; the other two are under general managers (vice presidents) who report to him. In addition this executive vice president has responsibility for six functional groups. These groups have operating responsibility in the Soaps and Detergents Division; and with the exception of Purchasing, have staff relations with the Food Products and Toilet Good divisions. (Purchasing has operating responsibility in all three divisions.) Each of these three divisions is a separate business with its own operating departments; and each in effect has its own general management with its separate recruitment and training programs.

While this system recognizes the income preeminence of the soaps and detergents side of the company, it gives greater scope and initiative to the food products and toilet goods sides, at the same time providing them the most experienced and successful guidance available within the organization. Although the system is recent, it was previously well tested in the comparatively small Toilet Goods division.

The administrative vice president's organization contains the department of economic research and the department of airplane operations. Both are of vital importance to a business of such size and scope.

The foreign activities of Procter & Gamble are largely handled through the same pattern of corporate structure as domestic affairs, with adjustments to fit the legal and business requirements of each national area.

Since the turn of the century, with almost clockwork regularity, the volume of domestic sales of P & G's household products has doubled each decade.

Manufacture and distribution of daily staples such as soap, detergents, and edible fats could be expected to provide inherent stability. But the raw material situation often interferes. The edible fats division is largely dependent on the purchase of oil seeds as a source of raw material. As one of the largest oil-seed buyers in the American market, this company, like the meat packers, has to take what is offered—and this, in turn, results from what the farmer decides to plant from year to year. This factor has caused the

(*Continued on page 378*)

Management Forum

by Francis Chilson
INDUSTRIAL CONSULTANT

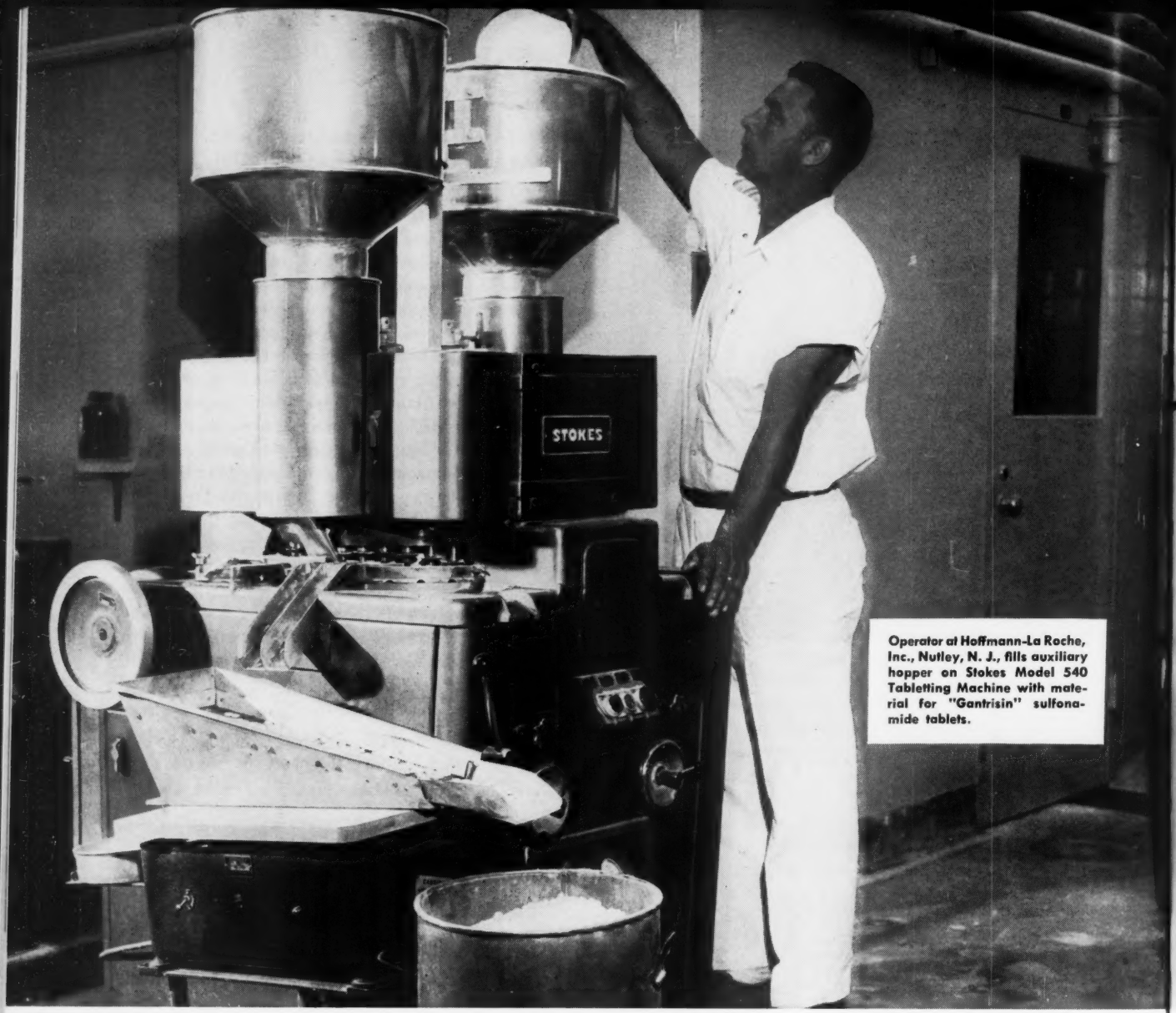
The Architects

For some strange reason the belief persists among company presidents that an architect can build anything. The very same men who hold such beliefs would not for an instant think of submitting themselves to an eye specialist for abdominal surgery, or to a surgeon for treatment of a skin disorder. Yet these medical people are all doctors—therefore, why not? The answer is that people have too much common sense. They know that no doctor is capable of efficiently practicing the whole art of medicine. Yet the very same people will hire architects to design factories who have never been inside a factory. They assume that because an architect is good at designing hospitals, churches, hotels, office buildings and apartment houses, he also must be good at designing every kind of building.

It must be stated however that sometimes an architect is employed without any thought at all simply because he is a friend of Mr. Bigboss' or a friend or relative of one of the directors. Very often Mr. Bigboss will select an architect friend simply to satisfy his own ego by demonstrating that he is now in a position to distribute largess.

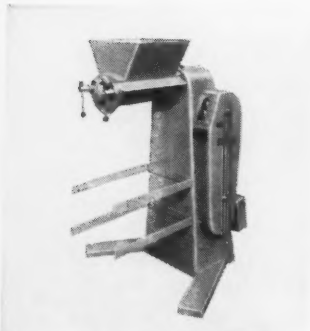
Many of the presidents of the largest contracting firms in New York are members of my club and I frequently hear them expressing their opinions of architects in graphic language. I polled a group of these builders one evening and they agreed on several points: that on the average 30 per cent of the drawings they receive from architect's offices are incomplete, inaccurate or structurally impossible to carry out. Architects often design impractical constructions just to satisfy their artistic impulses regardless of expense to the owner. Contractors are often placed in a difficult position because the architect represents the owner and may even have had a hand in selecting the builder. The builder therefore has no direct recourse to the owner. Also he has his future business to consider, so he grinds his teeth and says nothing even when he knows that the owner's money is being wasted. The extent to which architects do blunder was brought to light by The New York Times, issue of December 16th, 1956, under the heading "Rise In School Cost Is Laid To Architects." And I quote:

> "Architect's errors have been blamed by the city for more than half of a rise of $3,100,000.00 in the cost of a new school over an estimate made a year ago. . . .
>
> "The original cost estimate included in the 1956 capital budget, was $5,800,000.00. On Nov. 15 low bids totaling $8,900,000.00 were received by the Board of Education. Last week the Board of Estimate approved the larger amount. . . .
>
> "As reported by Mr. Beame to the Board of Estimate the architect's errors in estimates included the following:
>
> "An item for air conditioning of the basement of the structure was omitted. This should have been evalued at $40,000.00.
>
> "An error was made in the allowance for stairways and escallators to meet city code requirements. This was cited as omitting from the estimate $500,000.00.
>
> "It was found that specialized equipment originally planned for installation after the building's completion, would have to be installed during construction. The resulting deficiency was put at $373,500.00.
>
> "No increase was assumed for the further rise in the cost of labor and materials during the two year period of construction. The deficiency resulting from this was computed at $335,000.00.
>
> "Estimates assumed a unit price for steel of $350.00 a ton, failing to take into account an increase of $400.000 a ton after Jan. 1, 1957. (*This must be a typographical error. $40.00 is probably the correct figure. F.C.*) The deficiency

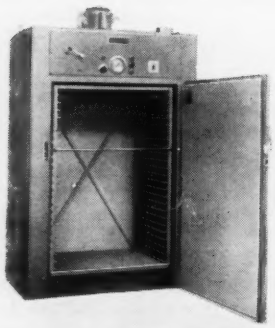


Operator at Hoffmann-La Roche, Inc., Nutley, N. J., fills auxiliary hopper on Stokes Model 540 Tabletting Machine with material for "Gantrisin" sulfonamide tablets.

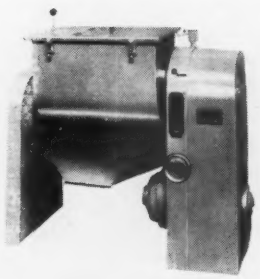
Stokes Auxiliary Equipment for Pharmaceutical Manufacturers



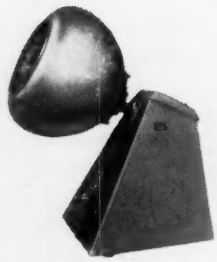
Granulators employ the efficient oscillating principle for breaking up moistened or dried aggregates. In a range of capacities.



Drying Cabinets use recirculating air; steam or electric heating under automatic control. Models with 5, 16 and 24 trays.



Granulating Mixers, for blending wet or dry materials, feature dust-tight lid, safety shut-off, controlled tilt for unloading.



Coating Pans. Model 1-D stand uses 16″ to 60″ stainless or copper pans, or polishing pans with removable canvas drums.

Précision production. "Gantrisin" tablets check out to highly uniform dimensions and consistent density.

Hoffmann-La Roche ups output 50% for "Gantrisin" tablets on new Stokes Rotary Tabletting machines

"Gantrisin" sulfonamide tablets, outstanding for treatment of serious infections, are now being produced at high rates of output and efficiency on Stokes Model 540 tabletting machines.

Quality pharmaceutical products are being tabletted—at high rates and low costs—on new Stokes rotary tabletting machines. At Hoffmann-La Roche, Inc., Nutley, New Jersey, several Stokes Model 540's are proving their ability to perform beyond expectation. For example, they are being used to produce "Gantrisin"—3, 4-dimethyl-5-sulfanilamido-isoxazole—tablets, an exceptionally safe and widely used sulfonamide for treatment of pneumonia, tonsillitis, urinary infections and other serious diseases.

According to Mr. Sidney Harris, Hoffmann-La Roche's Director of Pharmaceutical Production, these new machines have increased production *by over 50%*.

New design assures economy, simple operation

The Stokes Model 540 is advanced design in every respect. It's the easiest machine to set up and adjust that has ever been developed for tabletting. The operator has all controls and adjustments readily accessible on a single control panel. Pressure adjustment is made hydraulically by push button control. Indicating tachometer and pressure gage aid in making operating adjustments.

The Model 540 takes little floor space. It's built for long life, long tool service, with centralized pressure lubrication and safety overload protection.

There is no danger of double impressions with embossed punches, because new, lower cam design prevents lower punch drop, after compression. Anti-jump retainers prevent tool damage when the machine is run dry. No special foundation or permanent mounting is needed . . . vibration mounts are built into the machine.

Find out how the new Stokes Rotary Tabletting machines can save on your own production. Write or call your nearest Stokes office.

Pharmaceutical Equipment Division
F. J. STOKES CORPORATION
5538 Tabor Road, Philadelphia 20, Pa.

STOKES

here was cited as $237,500. . . .

"An allowance for a pile foundation was overlooked entirely. This should have been valued at $60,000.00. . . .

"According to Mr. Beame's report, Dr. David Moskowitz, associate superintendent of the Board of Education in charge of housing, wrote to the Budget Director as follows:

" 'It is regrettable that this happened, but in discussing the matter with the architects, it is apparent they were misled. They actually had a deficiency in calculated cubage of 274,000 cubic feet of the building, *because one sheet of computations were lost!!!!!*' " (*Italics mine. F.C.*)

Isn't that a hell of an excuse? One should be coldly objective in employing an architect. But one should be more than objective; one should also be thorough. First of all remember that architects are always good salesmen. They are superb in this because they can sketch pictures of their ideas—an ability no other salesman possesses. So beware!

Obtain a complete list of all the factories the architect claims to have designed. (I am assuming you're not naive enough to hire an architect who hasn't had extensive factory experience.)

Write to his clients. Ask them if the architect saw responsible for siting the factory on the plot. Ask them if he determined the size, type, and elevation of the factory. Ask them if he made the interior layout entirely. Ask them if they are completely satisfied with his work. Ask them if his preliminary estimates were anything like final costs.

You will find in many of his projects, for which the architect claims full and entire credit, that he merely played the role of interior and exterior decorator and construction supervisor. You will find that he had nothing to do with siting, sizing, typing, layout or even construction specifications. This is as it should be because no architect can be an expert in the material handling problems, processing problems, economic and future expansion problems of every industry.

Unfortunately too many people feel that he has such knowledge. They don't know, that not one in a thousand architects, does his own structural engineering, mechanical or civil engineering. All this work is farmed out to specialists, excepting in a very few big architectural firms, which are large enough to employ a staff of specialists.

It is an illusion, propagated by the architects, that the employment of an architect will save money. Invariably the architect works on a percentage basis and therefore has no real incentive to save money. Always keep that in mind.

Because I have so often criticized architects there is the feeling throughout the industry that I detest architects *per se*. Nothing could be farther from the truth. The idea I have been trying to get across is that architects are not technical men; they are basically artists and they should be dealt with accordingly. They perform a necessary function in the world, which would indeed be drab, insofar as structures are concerned, without them. When an architect has extensive industrial experience and is not egocentric I enjoy working with him. I have worked with a few—about one in twenty. If we are to get the best and the most out of the architects we employ we should realize their limitations and learn how to deal with them.

New Plant Check List

Here are some of the elements which have to be looked into when you are planning to build a new factory on a new site.

The Site
Test boring and topographic map
Well water
City water
Sanitary sewer
Storm water sewer
Chemical effluent disposal
Power and transformers
Gas
Siding
Roads
Parking lots
Sidewalks
Fire plugs
External lighting
Site grading and drainage
Landscaping
Recreation area
Zoning
Restrictive ordinances
Public transportation
Local taxes on land and buildings
Local personal property or floor taxes.

Natural Remedies

Many remedies of botanical or even animal origin have been used for thousands of years. Rauwolfia and digitalis are good examples. This came to mind when I read a farmer's answer to a query on blackhead in turkeys, which is a matter of interest to those in the veterinary field:—

"I have raised turkeys for many years, and I have never lost a poult. My flocks have never had blackhead, and I have never had a sick bird. The secret for raising healthy turkeys free from blackhead. Dandelion greens fed fresh daily. The plants should be cut up finely when the birds are small but they are all right whole when the flock is half grown. Several people who have followed this natural way to prevent blackhead have raised all their birds to maturity with no sickness of any kind." *J. L Swinford in the Rural New Yorker.*

This isn't the first time I've learned of the beneficient effects of dandelion greens. I once knew a farmer who was crippled with arthritis to the extent that he

was bed ridden. The local doctor put him on a diet consisting largely of dandelion greens and water cress and in two months time my friend was back at work again.

The question is: what is in dandelion greens besides a lot of iron and vitamin C (probably)?

I made an observation once that I've tried to get some of my scientist friends to look into. I caught a large lamprey, sometimes called lamper eel, and threw it up on a rock where it remained all day exposed to bright sunlight while I continued fishing. Upon returning some six hours later I was surprised to find that nothing remained of the lamprey excepting the skin and bony head which lay in a pool of oil. The body of the fish had dissolved entirely. This indicated to me that the lamprey might be a rich source of proteolytic enzymes or it might be a rich source of vitamin A as a result of photosynthesis, which caused its flesh to change to oil. It certainly seems worth a careful check because, if a medicinal use can be found for lampreys, it would be a godsend because they are destroying the good food fish in the Great Lakes.

I made another peculiar observation about lampreys. I was told by a farmer that the fish could be boiled but you could fry it until Domesday and still it would not be tender. Thinking this an old wive's tale I tried the experiment sometime later. The farmer was right. When boiled, the meat of the lamprey is white, flaky and tender (it tastes like mud) but it cannot be fried. After frying over a wood fire for half an hour with grease in the pan, the flesh remained as tough and rubbery as when it started. It was this experience that caused me to realize that in the first instance, it wasn't the heat of the sun that had caused the dissolution of the lamprey; it was sunlight. Direct heat seems to toughten the flesh; indirect heat in the form of hot water softens and tenderizes it; sun heat or sunlight dissolves it. What gives?

Wage Dividends

At the end of 1956 Eastman Kodak declared a "wage dividend" amounting to $35,000,000.00. Each employee will received $31.75 for each $1,000.00 of wages earned during the 1952-1956 period. Put another way this means that each employee with five or more years of service will receive about seven weeks pay. Pretty good. I am all for all plans that will outsmart the unions and keep them out.

I am however in favor of internal organization for employees. I think they should have their own contact committees to present grievances, ideas and suggestions to the management. I am not averse to having employees having representation on the Board of Directors. The more employees share the confidence and problems of management the more amenable they are. The job of maintaining cordial, mutual understanding between employees and management is endless and calls for intelligence and sympathy on both sides.

Outside unions are obtaining an increasing stranglehold on our economy because unions provide the leadership which employers have in the main avoided. When unions become politically powerful, as they will, unless employers wake up and assume the leadership which is their right, we shall become as badly bound up as England and Australia are.

Aldous Huxley Says

The English savant again pictures a Bright New (Drugged) World:—

"In the near future the best hope for a radically new pleasure lies with the pharmacologists. Consciousness-changing drugs, such as alcohol, opium and Indian hemp, have been used since before the dawn of history. Unfortunately, all these ancient bestowers of pleasure are somewhat dangerous. With such new drugs as meprobamate and lysergic acid, the pharmacologists have shown that they can produce agreeable and, in the case of the new hallucinogens, spectacular changes in consciousness at virtually no physiological cost. More than a thousand million doses of meprobamate were swallowed, last year, by the American public, and the numbers of those who regularly turn to the tranquilizing drugs for that relief from psychological distress, without which there can be no pleasure, is likely to increase with every passing month. Within the next few years we may expect to see the development of a physiologically costless stimulant and a physiologically costless transfigurer of perceived reality, less revolutionary than lysergic acid, but still capable of transforming time into eternity, of making the soul say yes to the world instead of no, of imparting to the most dismal or commonplace scene unsuspected and unimaginable qualities of beauty—even of making the average TV program seem absolutely wonderful." GOD FORBID! (F.C.)

Thought for Tomorrow

It is axiomatic that the drug and cosmetic industries have made a lot of money in spite of factories that are improperly designed, inadequately equipped, badly laid out and improperly located. This fact is often emphasized when management says, "Our plants may be all wrong but we made plenty of money in them." That they did! But will it continue?

A Message to Grandson

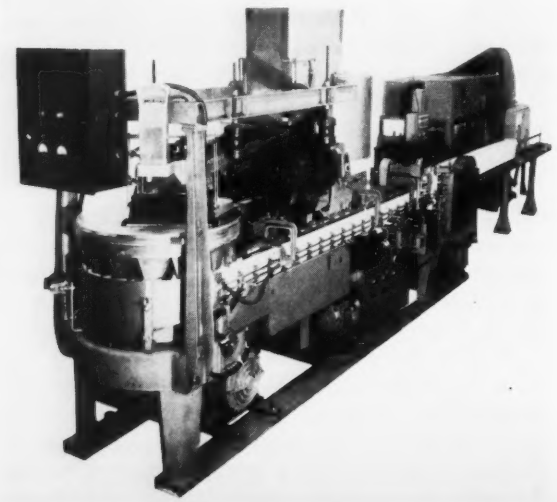
When John Hay (afterward Secretary of State for seven years) was appointed as ambassador to England he said in a speech in London on April 21, 1898 entitled, "Partners in Beneficence:" . . .

"All of us who think cannot but see that there is a sanction like that of religion which binds us to a sort of partnership in the beneficient work of the world. Whether we will it or not we are associated in that work by the very nature of things, and no man or group of men can prevent it. *We are bound by a tie we did not forge and which we cannot break;* we are

joint ministers of the same sacred mission of liberty and progress, charged with duties which we cannot evade by the imposition of irresistible hands."

Fills, Seals over 350 Sift-Proof Cartons a Min.

Cartons made sift-proof without an inner-liner are now being filled and sealed automatically at the rate of over 350 per minute on the new Model EH Neverstop machine of Stokes & Smith Company, 4992 Summerdale Avenue, Philadelphia 24.



No inner-liner is required in achieving a sift-proof, air-tight seal, a development made possible by several design advantages. The cartons are pre-heated just prior to the application of a hot-melt adhesive for the bottom seal. After filling, hot-melt adhesive is applied for the top seal, and the carton enters a turn around section on the conveyor preparatory to final drying. At this point, the adhesive on the side flaps of the carton is reactivated, the flaps sealed under pressure, and the carton passes through a refrigeration unit to set the adhesive quickly as it travels through the short drying conveyor.

The filling action utilizes a new vibratory feed mechanism, electronically controlled to assure filling accuracy, which permits speeds in excess of 350 cartons per minute. As the product to be packaged moves down a vibrator trough to the cartons, it is automatically checked for weight on a scale pan. If product density or rate of flow varies from a pre-set weight, electronic controls automatically adjust the intensity of vibration of the trough to restore immediately the rate of flow to its pre-set level.

Designed for high-speed, automatic and continuous operation, this new Model EH Neverstop unit can be used for packaging any free-flowing product in carton sizes from 2¾″ x ¾″ x 3⅜″ up to 4″ x 2⅛″ x 5¼″.

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Polyethylene Impulse Seal with Stokeswrap

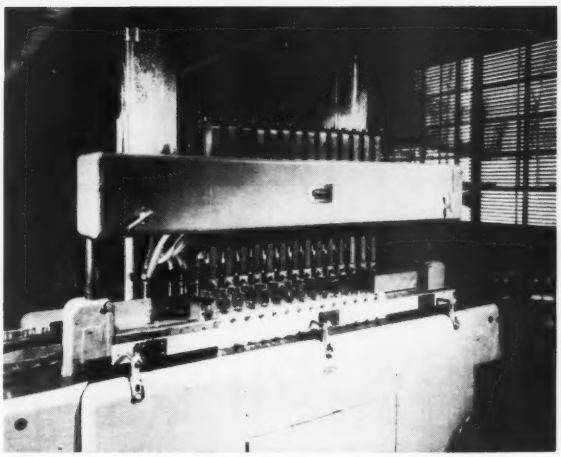
Substantial film savings have been achieved on Stokeswrap flexible packaging by means of a new electronically controlled method of impulse sealing, which assures strong positive seals with such thermoplastic webs as polyethylene, pliofilm, vinyl, etc. Both cutting and sealing are accomplished simultaneously using a cold wire cutoff.

Another new Stokeswrap development features an electric eye for positive registration of preprinted webs . . . with registration on the forward stroke, avoiding reverse motion of the web.

Improved "Tap-Touch" Stapler

The Container Stapling Corporation, 308 North Park Avenue, Herrin, Ill., has announced an improved Automagic "Tap-Touch" stapler, Model TAP-2. Equipped with two stapling heads, air operated with fully pneumatic controls, Model TAP-2 has no electrical connections, the important design novelty being in the automatic mechanical trip. Fully automatic lubrication is assured by a valving arrangement, continuously exhausting nebulized oil over moving parts, eliminating manual oiling.

Though recommended for closing overlap cartons, long narrow slotted end closing cartons, and telescope cartons, the TAP-2 may be used to close regular slotted cartons by simply adjusting the heads to the vertical delivery position. This adjustment can be made in less than one minute.



The Pneumatic Scale Liquid Filler is used by Warner-Chilcott Laboratories in bottling liquid forms of Agoral and Gelusil. Liquid flows by gravity through stainless steel pipes from mixing tanks on the floor above to the machine's filling bells, which vacuum-fill fourteen bottles at a time. The jars at the top of the machine are reservoirs for excess fluid from the bottles, all of which are automatically adjusted to the right level. After being filled the bottles move on a conveyor belt to the capping machine.

New Quad Stack Feed

A new box blank magazine feed has been developed by Kingsbury & Davis, Contoocook 3, N. H., to reduce labor costs of supplying blanks to quad stayers. Holding a 27-inch reserve supply of box blanks (up to 900 or twenty minutes of operation), it automatically feeds a controlled amount to the feed table as the quad consumes the blanks.

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For liquid filling that must be fast, economical and above all, *dependable*, U. S. Rotary Vacuum Fillers add the important plus value of extremely long life. Repeated installations by top plant engineers will justify *your* considerations of this machine. Write for the "Rotary Filler Bulletin."

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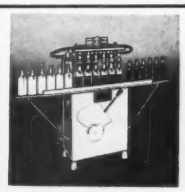

U. S. Model B-49 Straightline Vacuum Filler; the most automatic one-man filler. Available with or without discharge conveyor. For all liquids. Changeover for all types containers. Contact parts stainless steel, or plastics. Write for Bulletin B-49.

U. S. Model B-2 Semi-automatic Vacuum Filler. Provides efficient continuous production, filling two containers at a time. Automatic product supply for all containers up to 4½" dia. All liquids and semi-liquids. Portable. Write for Bulletin B-2.

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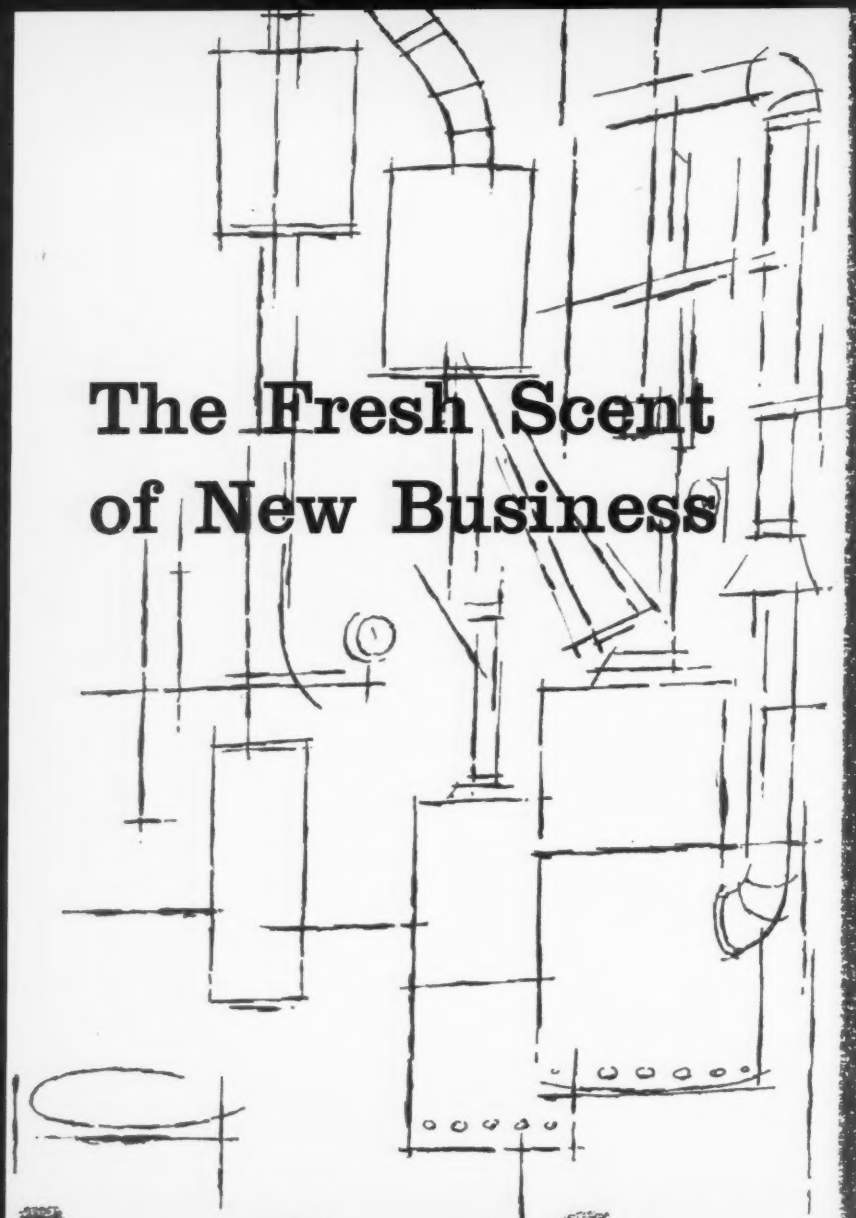

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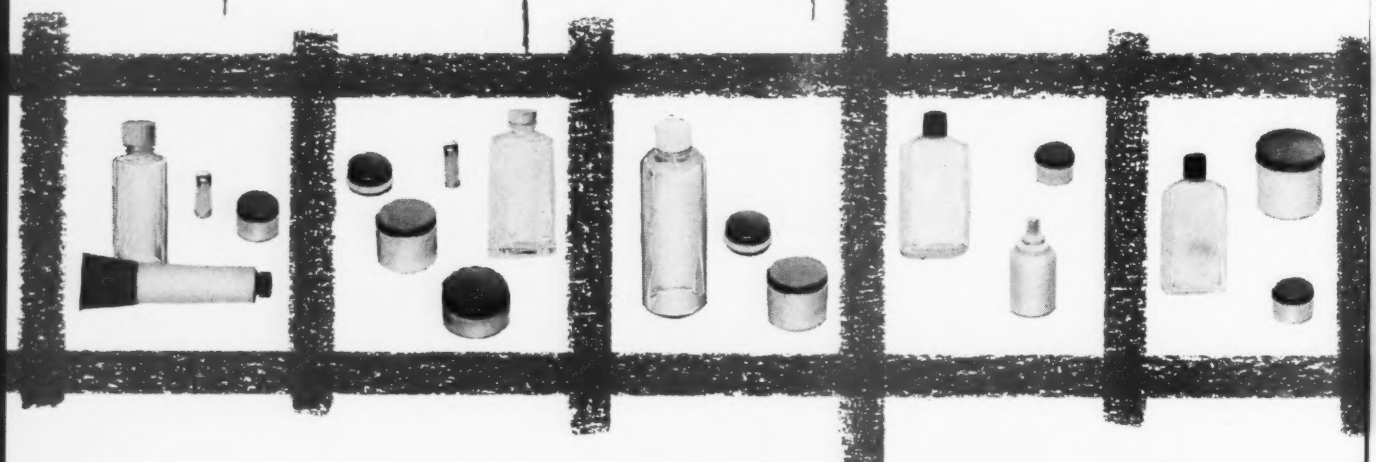

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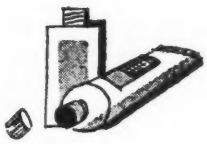

Advancing Therapy

Modern Medicine Clinic

The first Modern Medicine Clinic, held February 27 in New York, successfully presented a symposium on medical communication in the morning session and a symposium on therapeutic needs in the afternoon. The therapeutic session was opened by Dr. Alvarez and moderated by Dr. Visscher of the University of Minnesota. Dr. Grimson of the Duke University Medical School discussed peptic ulcers and after presenting useful background material indicated certain requirements in ulcer therapy. In the current treatment, preparations are required that will reduce intragastric pressure and that will reduce gastrointestinal motility on oral administration. Parasympathetic blockade is useful and an effective central sedative would be a desirable adjunct. New products that are worth investigation in this field would be a compound to block the action of gastrin; preparations that would blanch the stomach mucosa; a compound with anti-cortisone action would find application in ulcer treatment; overcoming hyperfunction of the islet cells would be desirable as would a preparation that would promote local wound healing. Dr. Cecil of the Arthritis and Rheumatism Foundation, discussing the therapy of arthritis, enumerated the many types of treatment, often irrational, that have been tried in the chronic disease. Analgesics are among the most useful preparations, but an effective, long-lasting drug without significant side-effects is still being sought. The corticosteroids are of course familiar and valuable anti-inflammatory agents, but ulcer incidence following their use is high, and other side reactions are important. In gouty arthritis, a purified colchicine with fewer side reactions is needed. Dr. Wortis of New York University Medical College, covering nervous and mental disorders, quickly mentioned the need for less toxic hydantoins and better succinimides in the treatment of grand mal; less toxic diones for petit mal and less toxic and more effective drugs for treating psychomotor epilepsy. Better diuretics are required; at present there are no adequate drugs for treating hyperkinetic disorders, spasticity, Parkinsonism, dyskinesias. Better and longer acting drugs are needed for myasthenia gravis; drug treatment of muscular dystrophy is needed and, in general, nonhabituating analgesics are required. Needed psychiatric drugs include central sedatives that do not cause mental confusion; non-depressing, non-toxic, non-soporific tranquilizers; drugs that will counteract peripheral anxieties (cardiac symptoms, sweating, etc.) without side effects; central stimulants without side effects; drugs that will break up obsessive compulsive behavior; drugs that can be used for test purposes to classify patients; antihalucinogens; antinarcotic drugs. Dr. Page of the Cleveland Clinic characterized hypertension as a many-sided chronic disease, indissolubly connected with the problem of atherosclerosis. Effective drugs to reduce abnormally high blood pressure and to reduce the advance of vascular disease are required. Specific ganglion blocking agents are desirable and there is need for drugs acting on the peripheral circulation. Above all, drugs are needed that will do their job without drastically altering the personality of the patient undergoing chronic treatment.

The program on medical communication opened by A. W. Hubbard and moderated by Dr. Caplow, included papers by Drs. Kilpatrick, Staudt and Wales, attempting to point out more effective ways to reach and influence physicians. The material covered was not essentially different from that presented by others on other occasions.

Comment: The program presented from the medical point of view was so stimulating and concrete, that the promotion presentation necessarily suffered by contrast. These papers served to underline once again our belief that there is a way out of the present diminishing returns problem of pharmaceutical advertising, selling and promotion. Difficulties are piling up in selling ordinary, me-too products that nobody really wants. A new product, with advertising and selling assistance, to be sure, will find open doors. Just take away some of the money now being used at a low rate of return from the advertising and selling budget and add it to the budget of the research department (I do not mean market research) for working out really new items and see what develops. The Industry spends well on research and professes to be gratified by the return on the research dollar; the same cannot be said for the promotion dollar; the doctors will certainly respond better to new and useful drugs than they will to studies of their psychological motivation.

Gordon Research Conferences —Food and Nutrition

The Gordon Research Conference on Food and Nutrition will be held at Colby Junior College in New London, New Hampshire, August 19-23, 1957, with Harry Spector as Chairman and Robert H. Silber as Vice-Chairman. "Antibiotics in Food Preservation" will be discussed on August 19 with C. L. Wrenshall as Chairman and speakers H. L. Tarr ("Use in Perishable Flesh Foods"), Charles R. Stumbo ("Use in Perishable Vegetable Products and Food Processing") and Henry Welch ("Public Health Aspects"). Alvin Nason will be Chairman of the session devoted to "Advances in Mineral Nutrition," speakers being Robert Van Reen ("Trace Elements Metabolism") and Emanuel Epstein ("Mineral Nutrition in Plants"). The session on "Fat Metabolism and Atherosclerosis" will be held on August 20 with Raymond Reiser and Norman Jolliffe as Chairmen. Speakers

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will be Ralph T. Holman ("Biological Interconversion of Polyunsaturated Fatty Acids"), J. B. Brown ("Effect of Hydrogenation on Polyunsaturated Essential Fatty Acids"), Hugh M. Sinclair ("The Functions of Essential Fatty Acids and Relationship to Atherosclerosis") and Laurance W. Kinsell ("Essential Fatty Acids and Lipid Metabolism"). The August 21 sessions will be devoted to "Advances in Protein Nutrition," James B. Allison, Chairman, and "Nutrition in Liver Disease," Klaus Schwarz, Chairman. Papers will be by Richard J. Block ("Nitrogen Requirements of Animals and Man"), an unannounced speaker for "Supplementation of Foods with Amino Acids," Philip K. Bondy ("Carbohydrate Metabolism in Liver Disease") and Charles S. Davidson ("Protein Utilization and Metabolism in Liver Disease"). A symposium on "Preservation of Food by Ionizing Radiations" will be held on August 22 with Bruce H. Morgan as Chairman. Don E. Young will discuss "Problems and Methods of Industrial and Experimental Application." "Action of Ionizing Radiations" will be covered by W. Dexter Bellamy (Proteins and Enzymes), A. L. Tappel (Fats and Vitamins), Z. I. Kertesz (Carbohydrates), B. S. Schweigert (Meats), Bruce H. Morgan (Other Foods). L. L. Kempe will discuss "Microbiological Problems in Preserving Foods by Ionizing Radiations," an unannounced speaker will discuss "The Wholesomeness of Irradiated Foods" and B. E. Proctor will cover "Industrial Potential of Food Preserving by Ionizing Radiations." The final half day of the confernce, August 23, will be devoted to "Operations Research" with Bernard E. Proctor as Chairman and Robert Brown and Arthur H. Smith as speakers with unannounced subjects.

This Food and Nutrition Conference is one of the Gordon Research Conferences to be held in 1957 from June 10 to August 30 at Colby Junior College, New London, New Hampton School, New Hampton and Kimball Union Academy, Meriden, all in New Hampshire. The Conferences were established to stimulate research and research discussion and this purpose is achieved by an informal type of meeting consisting of scheduled lectures and open discussions. The purpose of the program is primarily to bring experts together to discuss latest developments and to provoke discussion. Morning sessions are scheduled from 9:00 A.M. to 12:00 noon, evening sessions from 7:30 P.M. to 10:00 P.M., afternoons being available for recreation or participation in informal group discussions. Accommodations are available for family groups. To retain the special character and flavor of these Conferences, attendance is limited to 100.

Requests for attendance at the Conferences or other additional information should be addressed to W. George Parks, Director, Department of Chemistry, University of Rhode Island, Kingston, Rhode Island.

Tranquilizer Study

Among results of the study just completed, the Committee on Public Health of the New York Academy of Medicine's Subcommittee on Tranquilizing Drugs listed the following:

No present indication of a public health menace. While some deaths have been associated with unprescribed use of the drugs, there is no evidence of morbidity and mortality.

The Department of Health lists twelve cases of poisoning associated with the drugs in 1955; seventy-six in the first ten and one-half months of 1956, including two fatalities.

Present clinical evidence of side effects indicate that use of the drugs without medical supervision might be dangerous.

Total amount of drugs being sold without prescription is unknown and the Department of Health reports no "great amount" of under-the-counter sales.

Those now taking the drugs on prescription possibly are distributing them "rather widely" among friends and relatives.

Misuse may lie in the refilling of prescriptions without the physician's knowledge.

Emphasizing the lack of long-term clinical results in the use of the drugs and the need for further study, the committee reported concern over the possibility that misuse of the drugs might become a public health menace.

It recommended that stronger controls should be placed on distribution, although not to the same degree as on barbiturates. It urged that the Sanitary Code be revised to bring it more in accord with the provisions of the Durham-Humphrey Amendment to the Federal Food, Drug and Cosmetic Act. This would make new drugs, potentially harmful drugs and habit-forming drugs available only on prescription.

Adding to the disturbing aspects in the committee's view was the "extravagant and distorted literature" being distributed by some drug companies. It might lead to indiscriminate use, the committee warned.

Literature was also harmful, it was reported, if it did not set forth the side effects of the drugs. Clinicians have found some of the effects to be Parkinsonism, allergic dermatitis, constipation, diarrhea, jaundice and depression.

Prolonging Life

New drugs, among them a compound with potentialities for slowing the aging process and prolonging the normal life span, featured a meeting of clinical investigators in Carmel, California.

The antiaging compound lengthenep the life span of laboratory rats by 20 per cent in one large-scale test, according to a report presented in abstract by Dr. Denham Harman, of the University of California's Donner Laboratory.

In his antiaging study Dr. Harman started with the thesis that free radicals, which are normal products of metabolism, are to some degree toxic, and that since radiation is known to produce them, they probably increase in the system in proportion to exposure to radiation.

He used three potent reducing agents as dietary factors to absorb free radicals. They were cysteine hydrochloride, 2-mercaptoethylamine hydrochloride, and 2,2′-diaminodiethyl disulfide dihydrochloride. These were included in a powder feed. A control group received the feed without the reducing agents.

The half life of mice on the reducing diet was about 10 months, that of the controls about eight months. This encouraging result is being followed up with other experiments.

Prednisone Therapy

A "Complete Manual of Therapy with the Meti-Steroids" has just been published by Schering Corporation. This valuable manual is divided into eight sections—the Background of Corticosteroid Therapy; Chemistry and Comparative Pharmacology of the Meti-Steroids; Clinical Significance of the Meti-Steroids; Established Indications for the Meti-Steroids; Promising Indications for Meti-Steroid Therapy; Investitions in Meti-Steroid Therapy; Precautions and Contraindications; Packaging Information. Each section has its own extensive bibliography and is illustrated with case reports. The index is based upon diseases. The book is well printed and bound and provides comprehensive information of the current state of therapy with prednisone.

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For years, makers of cough syrups, lozenges, lotions and other drug and cosmetic preparations have used Glycerine to provide demulcent, humectant or solvent action. Recent research with new thickening agents indicates that these properties of Glycerine will soon be extended to a whole new range of pharmaceutical preparations.

Glycerine has been known for years to be compatible with conventional water soluble gums and gelling agents such as Gum Arabic and Karaya. New studies show that Glycerine is also compatible with a majority of the new synthetic gums. In most cases, Glycerine supplements the bodying action of these gums, and the resultant formulations are relatively unaffected by freezing and thawing.

Other fields, too, will benefit from this compatibility of Glycerine. Nontoxic lubricants are now possible. Important improvements in printing inks, grinding and polishing pastes, gasket seals—all making use of Glycerine's unique balance of properties—are promised.

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Compounder's Corner

Society of Cosmetic Chemists of Great Britain

The third winter meeting of the Session was addressed by Dr. J. H. Schulman, O.B.E., Reader in Surface Chemistry at the University of Cambridge, on the subject of "The Behavior of Proteins at Interfaces." The study presented the phenomena observed when dilute solutions of proteins are injected below monolayers formed by lipids, such as detergents on a water surface in a modified Langmuir trough.

Stable monolayers were obtained by replacing the conventional sodium lauryl sulfate by sodium behenyl sulfate (C12 by C22) which forms an incompressible film, or by cephalin or cardiolipin which both form compressible monolayers. Cholesterol gives uncharged films of low compressibility. Positively charged films were made by replacing the simple type of alkyl trimethyl ammonium halide by stearyl choline or by lecithin.

The proteins investigated included hemoglobin, globulin, serum albumin and the enzymes catalase and trypsin, the enzymes being particularly useful because a measurement of activity could be employed to trace the fate of the protein.

There is evidence that a protein such as albumin has molecules in the form of a helix, even in solution, and that the helix exposes on the outer side some 50 receptive centers to which lipid units can attach themselves. When these centers are satisfied the molecule uncoils suddenly, exposing a further number of receptive centres which were originally inside the helix, and these in turn take up lipid units.

The lecture provided information of use to the cosmetic chemist, who, at one time regards protein as a raw material for his formulations, and, at another as skin and hair, to which formulations are applied.

The fourth lecture of the Session was delivered by Dr. H. W. Hibbott, A.R.I.C., on the subject of "Particle Size in Powders." The powdered materials supplied to the Cosmetic Industry were shown to have their characteristic ranges of particle size, and grinding before use was designed to break up agglomerates of fine particles, in other words to mix rather than to grind. The important effects of aggregation were demonstrated by experiments in which a suspension of fine chalk in water separated much more rapidly than a suspension in alcohol and conversely a suspension of titanium dioxide in alcohol separated in a few minutes as compared with several days for a suspension in water.

In the light of such experiments the methods of measurement of particle size and of separation were very critically examined by Dr. Hibbott.

Dr. Hibbott expressed a preference for the sedimentation method of Andressen in conjunction with a microscopic examination. The sedimentation apparatus is relatively cheap and gives results within one day with an operating time of about two hours. The apparatus will handle from 7 to 20 grams of sample. Andressen prefers an operating free space of 4-6 diameters between particles but it is probable that 15 diameters will in general lead to better results. The lecturer mentioned an accuracy of 1.5-2.0 per cent.

Aerosol Shampoo

Sipon ES, a sodium lauryl ether sulfate manufactured by American Alcolac Corporation, can be used in the production of aerosol shampoos which do not corrode the container after three months at 100° F. The surface active agent has detergent properties comparable to lauryl sulfates, a high foam level, a low cloud point and is unaffected by water of any degree of hardness.

Chloracel

Aluminum compounds are known to be effective astringents (and antiperspirants) at acid pH values and when the molecules are relatively simple. Furthermore, at higher pH values and especially as central atoms of coordination complexes, aluminum atoms are substantially less effective astringents, with the possble exception of the highly alkaline aluminates.

The availability of the aluminum atom in the complex will determine the effectiveness of the compound for astringent uses. A highly stable complex, such as aluminum lactate, will not form aluminum hydroxide in the presence of alkalies. This is also true for disodium aluminum lactate, the aluminum still being strongly bound.

In Chloracel, however, the internal complex has been built around an aluminum hydroxide fragment. This complex is stable enough so that it will not react with soap or alkalies, but will release aluminum chlorohydroxy ions in sufficient concentration to provide astringency. For this reason, the sodium aluminum chlorhydroxy lactate complex can function as an antiperspirant in soap cologne sticks.

Pre-Shave Preparations

Basically, these requirements have to be fulfilled in the composition of a shave lotion, according to G. A. Novak (*Dragoco Reports*):

Stiffening action on the beard and stimulation of the *arrectores pili*.

Prevention of swelling of the hair keratin: pH of the lotion must be set somewhat below the isoelectric point of the keratin.

Tonic must be fast-drying.

Astringent and antiphlogistic effect on the skin.

No harmful effects from the lotion on the metal of the cutting head, and nothing (especially in the perfume oils) that will form resin or gum.

A solution with a high alcohol content is a good base for an electric preshave solution as it has some stiffening effect on the beard and dries quickly. The pH value must be adjusted to acidity, preferably with an organic acid like formic or acetic acid. Keratin at its isoelectric point of 4.9 swells to the least extent and lotions should therefore be adjusted to a slightly lower figure of about 4.5 to 4.8. Mild astringents are also useful, and these may include witch hazel, aluminum salts, zinc sulfocarbolate, etc. Wetting agents may also be useful in reducing the greasiness of skin and hair.

Comment: Powders are often suggested for pre-electric-shave use, but to us (lather shave addict), the powders would seem to be messy to apply, as much reaching the chest and shirt front as the face. The powders should be useful, however, for their adsorbent power on oily secretions. A powder suspension, containing enough alcohol for quick drying, small proportions of astringent and wetting agent, and an adsorbent like colloidal clay and no humectant, so that a dry powder would be left on the face, might provide a useful composition.

Antacid Patent

U. S. Patent 2,774,710, filed December 1, 1953 was issued on December 18, 1956 to K. W. Thompson and A. M. Corrente and assigned to Organon, and covers an antacid preparation. As an example, oatmeal, glucose and water are stirred to a thick mixture and mixed with 9.0 grams of magnesium trisilicate, 6.3 grams of calcium carbonate, 5.4 grams of aluminum hydroxide and 3.6 grams of magnesium carbonate and granulated. The granules are mixed with 6.0 grams of guar gum, 0.899 grams of talc, 0.444 grams of lemon essence, 1.482 grams of starch and 0.270 grams of sodium cyclamate. Final tablets weigh 0.7 grams each.

Fatty Alcohol Sulfates

W. Waite (*Chem. Prod.* 19:477, 1956), discussing fatty acid sulfates, points out that their most obvious application is in shampoos, most of them being based upon various salts of the sulfates. Soap and surface active agents conform to the definition of shampoos—a preparation of a surface active material which when used under specified conditions will remove surface grease, dirt and skin debris from the hair shft and scalp without adverse effect on the skin, hair or general health of the user.

Both soap and sulfated lauryl alcohol derivatives could be included in this definition, but soap has one great disadvantage—the formation of insoluble calcium and magnesium salts in hard water, which has led to its gradual disappearance in the shampoo field. The calcium and magnesium salts of sulfated lauryl alcohol are soluble so there is no scum formation when a shampoo based on lauryl alcohol is used.

The triethanolamine salt of sulfated lauryl alcohol is one of the most common bases for liquid shampoos. Its mild action on the skin, its excellent foaming properties especially when a foam stabilizer such as lauric *iso*propanolamide is incorporated and its low cloud point make it the ideal shampoo base.

Poly-Tergent Surface Active Agents

The Industrial Chemicals Division of Olin Mathieson Chemical Corporation, Baltimore, Md., is readying a line of nonionic surface active agents for general industrial use which it will market under the name Poly-Tergent.

Four members of the line are being offered initially, with others to follow. All of this first group are alkyl phenol polyglycol ethers. Poly-Tergent B-200 is useful in solvent systems as a detergent and dispersant; as an emulsifier it may be used alone or in combination with more hydrophilic substances. Poly-Tergent B-300 possesses outstanding properties as a wetting agent, emulsifier, detergent and dispersant. It is also a good foaming agent. Poly-Tergent G-200 is intended primarily to serve as an emulsifying agent and associate emulsifier and is useful in solvent systems. Poly-Tergent G-300 is completely soluble in water up to 62-70° C. and in a number of organic solvents. It is highly stable chemically and is a good wetting agent, detergent and dispersant.

Robane

Robane is a saturated hydrocarbon which is said to promote percutaneous absorption. By being miscible with human sebum it can bring incorporated medicaments into closer contact with the absorbing surface of the follicular wall and accelerate penetration by way of follicles and sebaceous glands. Its properties suggest wide application in cosmetics and pharmaceutical preparations: it spreads evenly and uniformly over the skin, leaving it soft and not greasy; it forms a protective film that will assist in retaining subcutaneous moisture; it can be readily emulsified and gelled; it will not oxidize nor become rancid in preparations; tests indicate that it does not cause adverse skin reactions.

Robane, offered by Robeco Chemicals, Inc., New York 10, N. Y., is a specially purified form of hydrogenated squalene. It is a colorless, virtually odorless, tasteless, chemically inert fluid oil. It is miscible with vegetable and mineral oils and organic solvents and insoluble in water.

Glass Aerosol Bottles

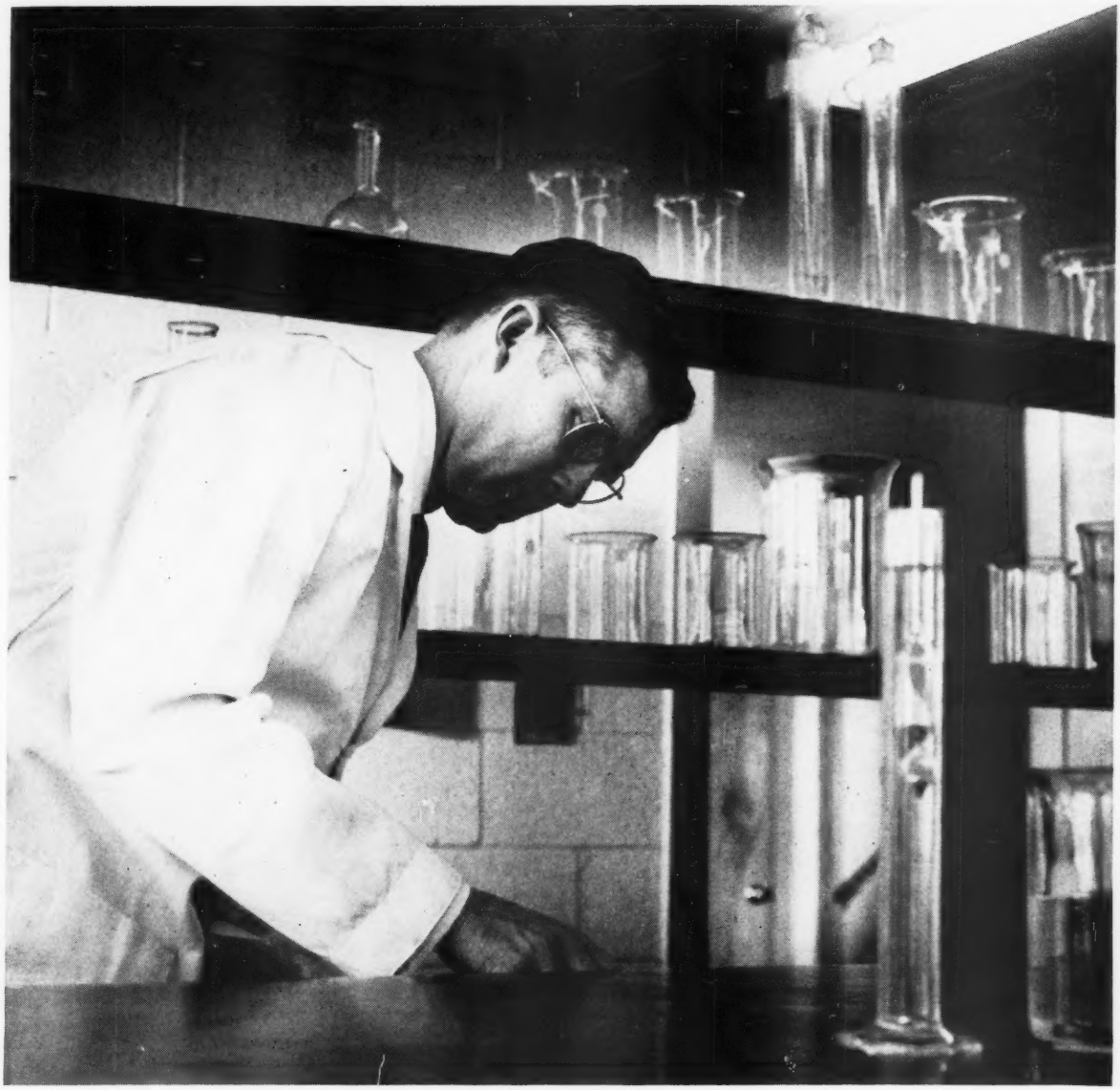
It has been suggested that uncoated Glass Aerosol bottles with internal pressures as low as 15 p.s.i.g. offer no undue explosion hazards. It is further suggested that such bottles, when they do break, only project broken pieces for a few feet and that these pieces tend to follow a horizontal line of flight and rise only some 18 in. These conclusions are not confirmed by many other experimenters.

Despite the fact that a beverage bottle contains as much as 60 p.s.i.g. this pressure will only develop on agitation. The carbon dioxide in solution is present in only a small concentration and on breaking the bottle the molecules at the surface (liquid/glass or gas/glass) are not reinforced quickly enough to provide any great explosive power. In hundreds of experiments it has been found that carbonated beverage bottle sbreak readily when dropped on to hard surfaces but that the fragments are not propelled in a dangerous manner.

Suggestions have been made that if a beverage bottle with a gauge pressure of 60 p.s.i.g. is safe, then an Aerosol bottle with only 15 p.s.i.g. is even safer.

Glass Aerosol bottles with gauge pressures in the region of 13 p.s.i. have been shown to break practically every time when dropped from a height of 6 ft. 6 in. On breaking, these bottles scatter their pieces in a dangerous manner. Naturally, a bottle could be designed to produce greater resistance to breakage, but that is by no means tantamount to removing the ultimate and inherent explosive risk.

If the existing type of bottle is adequately covered with a tight-fitting plastic coating (0.025-0.03 in. thick) and possesses a securely anchored valve, then the bottle will break less readily and, if it does break, no separate pieces of glass will penetrate the cover.—J. Pickthall, *S.P.C.* 30:171



This man defies gravity

(He maintains propylene glycol specifications through quality control)

At every stage of processing propylene glycol, U.S.P., a sample is drawn. Is ash content low enough? Does distillation fall within range requirements?

What about sulfate turbidity?—Our chemist checks.

Diluting 5cc. of propylene glycol with 15cc. of distilled water, he adds 5 drops of hydrochloric acid and 5 drops of barium chloride. The complete clarity that results tells him, "OK". So must other tests.

If specific gravity, for example, proved too high or too low, corrective measures would be taken immediately to change it. And we do mean *change it*. For the specifications of Dow propylene glycol meet or exceed those set by the U.S.P.

Quality control is one more area where you'll find Dow increasing the value of your chemical dollar. You'll find extra efforts and services, planning and modernized techniques helping you to shape the future, today. THE DOW CHEMICAL COMPANY, Midland, Michigan, Dept. GD 809E.

YOU CAN DEPEND ON DOW

(*Continued from page 360*)

company to have, at various times in the past, problems of immense inventory and fluctuating costs of raw material.

Despite this inherent instability in the second major division of its activities, Procter & Gamble has been able to stabilize its earnings in a most remarkable fashion. P & G's twenty-five household brands, of which approximately eighteen are now sold nationally, none is on an unprofitable basis. This can be determined because each product has its cost and profit individually computed.

There are no figures available on competitive products from which any comparative conclusions can be drawn. Each of Procter & Gamble's important competitors in the household field markets a different combination of products. Lever Brothers, foreign owned and with no comparable figures published, makes cleansing products, shortenings, and toilet goods. Colgate-Palmolive markets toilet goods, soaps and detergents, but no food products. Wesson Oil & Snowdrift sells shortening, but also a line of other food products not sold by Procter & Gamble. Swift markets shortening but has a large line of other food products, and little soap and detergent business. Armour produces a very popular toilet soap (Dial), very few detergents, and shortening as well as a large line of other food products. Hence, comparison between total figures of the various companies is not valid, and breakdowns are not available.

The consumer market for products of the character that this company sells is so stable that one might expect lethargy to develop in the business operations. This has not happened because intense competition has been characteristic of this company's markets for many decades. This competition is international. It is carried on not only on both a price and quality basis, but also on a promotion and products development basis. Almost daily some situation develops around some product in some area that upsets the existing balance of things—either through a new sales promotion move, an unexpected price cut, or an unforeseen improvement in quality. Perhaps the best examples are Armour's development of Dial deodorant toilet soap; and even more significantly, Monsanto Chemical's development recently of All, which quickly made it necessary that leading detergent makers bring out a low-sudsing detergent.

No other company engaged in whole or in part in the same business activities as Procter & Gamble shows anywhere near a comparable earnings stability. Considering the extreme fluctuations that occur in the price of fats and oils and the resulting lack of absolute control over raw materials in this important area, it is phenomenal that the company has not failed to show an operating profit of at least 6.4 per cent of sales during any of the last twenty-five years and has made as high as 17.1 per cent.

Research and Development

When Mr. William A. Procter hired a chemist in 1887 to work in one corner of P & G's machine shop, he started one of the first scientific research establishments promoted by industry in the U. S. or elsewhere.

Even at P & G research and development was hardly more than a division of the production department until 1921. In 1938, however, P & G's Chemical division and Engineering division were given new housing in the Manufacturing Administration and Research building. In 1948 a separate research and development team was established, and in 1950 the Toilet Goods division was formed with its own research department.

In 1952 the company built is Miami Valley laboratories at Venice, Ohio, for basic research, and gave them the relative independence from production which is essential for efficient exploratory work. The Miami Valley facility, seventeen miles from Cincinnati, occupies 257 acres, has 127,000 square feet of floor area, and is one of America's very best industrial research laboratories. The company has several other research activities—at the Ivorydale plant; a cellulose and oilseed byproducts research plant at Memphis, Tenn.; facilities at Newcastle-on-Tyne, England, and Hamilton, Canada; products research and development facilities for local problems wherever there is an overseas plant (Caracas, Manila, Surabaya, Marseilles, Brussels, Havana, Mexico City).

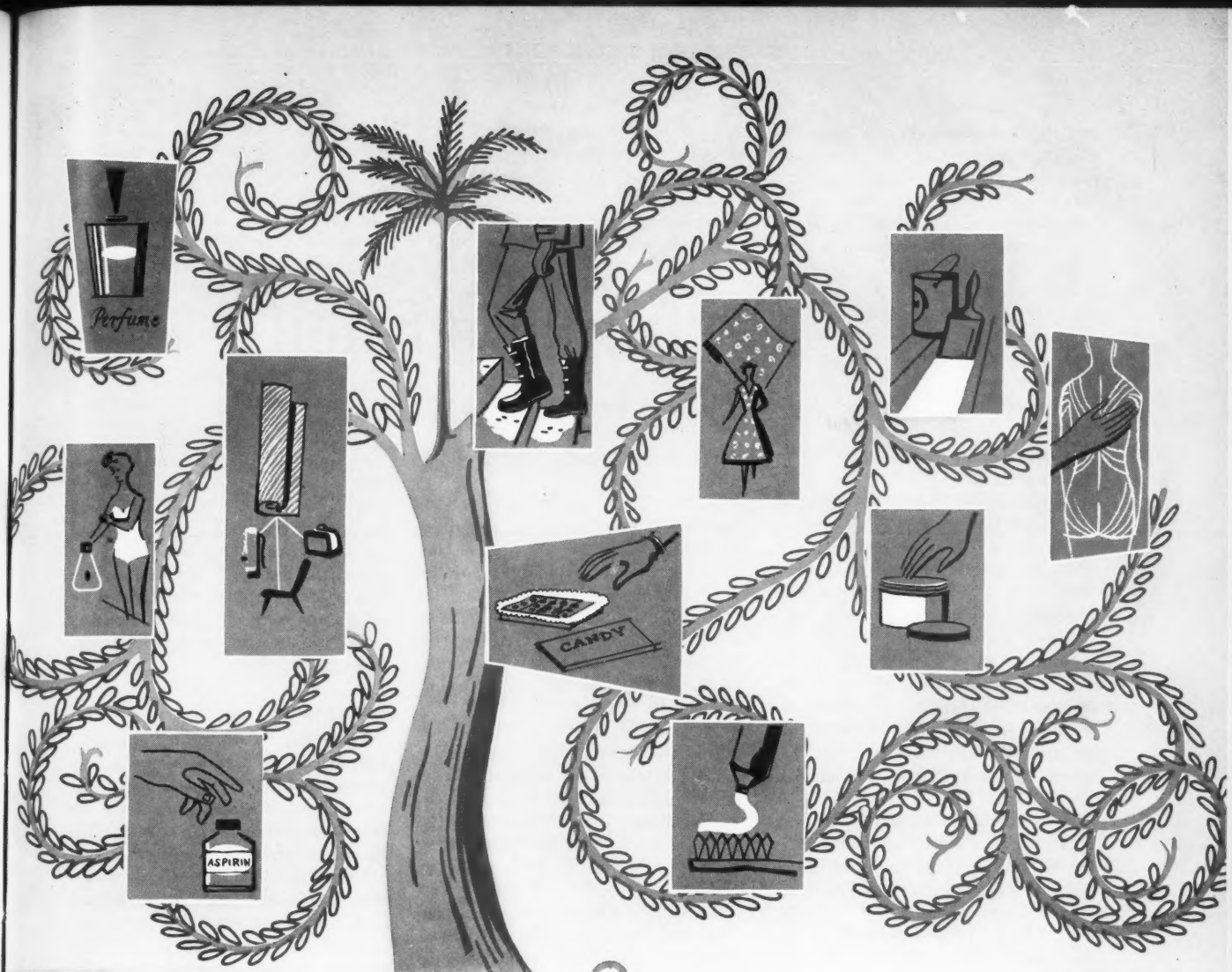
Consolidated research expenditures increased from $1,452,000 in the 1941-1942 fiscal year to $16,209,000 in the fiscal year ending June 30, 1956.

The most important facility of any research laboratory, however, is not the equipment; it is the technical intelligence and ability of the men working there, along with the atmosphere in which they seek to discover new products or processes and improve old ones. Progressive companies today are limited in their research activities not by the amount of money they can spend on plant, but by the availability of qualified professional manpower. P & G has long been known for having one of the best recruitment programs in America, its selection methods are established and proved, and its prestige with able prospects is high. P & G's 1,500 product-research personnel, wherever they are located, are not only well housed and equipped, but well trained and organized into an effective research team, and they work under most favorable conditions.

P & G's research has certainly justified itself. Crisco and Tide are two examples of its new products which have been highly profitable, have had far-reaching effects, and have made notable contributions to the American economy.

Synthetic detergents had their real beginnings as a dominant market factor in P & G laboratories. More than one-half of all P & G sales are of products developed in the last ten years. The effectiveness of P & G research on improvements of old products and

(*Continued on page 388*)



contributing to the growth of many products . . .

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You will find these compounds in a long line of familiar products—serving as a flavoring agent in toothpastes, dye carrier for Dacron, counter-irritant in liniments and ointments, light stabilizer for resins and plastics, intermediate in perfume ingredients, sun-screening agent for suntan lotions and creams, and retarder for rubber—to name a few.

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- Salicylic Acid, H Powder
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- Potassium Salicylate—*powder*
- Methyl Salicylate, U.S.P.
- Phenyl Salicylate, N.F. (Salol)—*granular*
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- Acetylsalicylic Acid—*starch granulations*

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Perfumer's Shelf

International Perfumery Symposium

Delegates from 20 countries attended the Second International symposium on Synthetic and Natural Perfumes and Cosmetics held in Paris in December.

M. G. J. Beets, Polak and Schwarz, reviewed recent developments in synthesizing organic chemicals with reference to the use of metal hydrides.

E. Lederer, Reader at the Sorbonne, discussed the chemistry of substances with amber odor and production of amber notes was exemplified, for instance by the cyclization of dihydroionone.

R. Normant, Sorbonne (Paris) was prevented from attending the meeting, but his work on the chemistry of linalol will appear in the final report of the symposium.

G. Ohloff, Dragoco, described the synthesis of new odorant derivatives of dimethyloctalines. About forty new chemicals have now been prepared, and the first one may be soon available in the trade.

W. Treibs, Leipzig, gave an account of recent progress in the chemistry of terpenes and sesquiterpenes.

M. F. Carroll, Boake Roberts, reviewed the reaction of acetoacetates or their equivalents with allyl alcohols, and its extension to acetylenic carbinols.

R. L. Blackmore and W. D. Fordham, Boake Roberts, gave results of their studies of gas chromatography of perfumery materials.

F. H. L. Van os Groningen and C Schottens, Flebo, Hougezand, described new techniques for the evaluation of carvone and the other ketones.

A number of contributions on the production of essential oils and essences were presented. Nicolas Nicolov, Bulgarska Rosa, Sofia, gave an account of recent techniques of preserving the roses after they are gathered and until the extraction is operated.

A second paper was read by Nicolov on *Mentha piperita* and the constants of the oil were described in relation to the distillation technique.

F. La Face, Experimental Station, Agrumi Reggio Calabria, described latest progress in the extraction of bergamot, lemon, orange and mandarin as a result of mechanization.

Paolo Rovesti, editor, *Rivista Italiana Essenze* Milan, described the essential oil obtained from *Teucrium chamaedrys L.*, which is used in lotions and refreshing drinks.

L. Trabaud, Bertrand Freres, reported the latest developments in the field of extraction of naturals. Low-temperature extractions have been recently applied using butane at 0°C., which makes possible the treatment of tuberose, rose, orange flower, muguet and lilac.

E. Shiftan, van Ameringen Haebler Inc., New York, spoke of the importance of new synthetics in compounding leading to greater stability of perfumes in industrial applications such as in soaps, cosmetics and deodorants.

Rene Cornon, Paris, dealt with the animal notes and of their use in perfumery compounding. He said that animal notes have no aphrodisiac effects on animals and that their role is of a psychological character, giving distinction to a perfume.

F. V. Wells, editor of *S.P.C.*, London, summarized his studies of the persistence of perfumes in the skin and reported that an alcoholic extract lasted longer than the same extract to which water or a quaternary ammonium salt has been added.

Max Stoll, Firmenich and Co., described his company's new laboratories, where every research chemist has his own laboratory, with two assistants.

Roger Belier, Paris, a legal expert, raised the subject of the right of perfumers and cosmeticians to a share of the profits when their creation is exploited by their employers.

In the concluding address, E. P. Meunier (Paris), President de la Societe Technique des Parfumeurs Francais, who has lately promoted extraction by butane, said that whereas perfumery materials are studied by chemists and physicists, the making of perfumes required the taste and finesse of artists. The greatest perfumes were created by artists who were very seldom chemists or physicists.—R. Matalon, *Manuf. Chem.* 28:14, 1957.

Pharmaceutical Flavoring

The "Pharmaceutical Flavor Guide," just issued by Fritzsche Brothers, Inc. catalogs and, more important, classifies a comprehensive list of flavors for use in pharmaceutical preparations. This 52 page booklet, completely cross-indexed, lists 37 classes of pharmaceuticals and in each instance tabulates a large variety of flavors suggested for trial in the preparation, along with general indications concerning solubility and compatibility considerations. The pharmaceutical index is an extremely detailed listing of products, while the flavor index indicates the variety of applications for a given flavor.

This compilation is obviously of great value in guiding the pharmaceutical compounder in his first flavor trials and useful flavoring suggestions dropped throughout the booklet will often suggest new approaches to the solution of the problem.

Orris Fragrance

A prime quality orris absolute contains as much as 80 to 85 per cent irone. Nevertheless, one must also take into account the natural occurrence of other modifying odorous constituents, including myristic and oleic esters and aldehydes, as well as esters drawn from the aliphatic acid range from caprylic to myristic. This complementary odor-shading contributes considerably towards the chief function of Orris in perfumery, namely to impart body, depth and persistence, particularly to

violet, cassie, mignonette, mimosa and other similar semi-exotic artificial floral ottos of this type.

Although the basic Iris Blossom fragrance pattern may be described as a complex of methyl ionone, ionone and linalyl acetate, this needs the support of a supplementary note based on Mimosa (acetophenone), Melilot (dimethyl hydroquinone), and Meadowsweet (salicyl aldehyde).

From the point of view of practical perfumery the chief lesson which the Iris family affords is an invitation to investigate some of the tonal effects which can be achieved by the use of comparatively dilute solutions of the ionones in conjunction with muguet, meadowsweet, primrose and orange-blossom bases.—E. S. Mauver, *S.P.C.* 30:90, 1957.

Cinnamon Oils

Cinnamon bark oil of commerce is derived principally from the trimmings or "chips" and also from bark of inferior quality. The yield and the properties of the oil vary according to the nature and condition of the chips and the method of distillation. The oil is pale yellow in color, possessing the delicate aroma of Ceylon cinnamon, and has a sweet and pungent taste. Its principal constituent is cinnamic aldehyde, but it contains a number of other substances which are responsible for the peculiarly delicate aroma of the oil. These include phenols (mainly or entirely eugenol) and small amounts of aldehydes, ketones, alcohols, esters and terpenes. The eugenol is usually present to the extent of from five to 18 per cent, though Guenther has recorded instances of genuine oils containing 34 and 38 per cent. English distilled oils, though often more fragrant, generally possess a lower specific gravity, and a lower aldehyde content than oils distilled on the Continent or in the United States; they contain about 60 per cent. of cinnamic aldehyde and about 10 per cent. of eugenol.

The oil distilled from the leaves of the cinnamon tree differs from the bark oil in that it contains eugenol as its main constituent while cinnamic aldehyde is present only in small quantities, usually under three per cent. Ceylon cinnamon leaf oil is distilled from the leaves trimmed off the shoots cut for bark production; they are dried for three days before distillation. The leaves are distilled with steam generated in a separate direct-fired still. The yield amounts to 0.5 to 0.7 per cent, though Gildemeister and Hoffmann report a yield of 1.8 per cent for Ceylon cinnamon leaves distilled in Germany. Two types of oil are produced; in the Negombo area, north of Colombo, where the finest quills are produced, the oil is characterized by a rather low eugenol content, viz., 60 to 65 per cent, but in the Ambalangoda and Matara districts, in the extreme south, the oil contains 75 to 80 per cent and more. The difference may be due to varying soil conditions or, more likely, to the fact that the Negombo producers distil for only seven hours, while in the south distillation is prolonged up to about 20 hours.

Glichitch carried out a considerable amount of work on a cinnamon leaf oil from Madagascar, and summarized his results in 1924. The oil contained only 50 per cent of free eugenol, the remainder including 27 per cent of benzoyl benzoate, one per cent of combined eugenol (probably aceteugenol), seven per cent of cinnamyl alcohol (free and combined), two per cent of other alcohols (probably phenylpropyl alcohol), 0.2 per cent of cinnamic aldehyde and a trace of benzaldehyde, 0.5 per cent of safrole, 1.5 per cent of terpenes (α-pinene, β-phellandrene and dipentene), one per cent of terpene alcohols (linalol, geraniol, borneol and α-terpineol), six per cent of α- and β-caryophyllene and small quantities of piperitone and sesquiterpene alcohols (combanol, foliol and cinnamonol).

The Negombo oils are exported mainly to Malaya and the Far East, where they are used for flavoring purposes, or are blended with oils of higher eugenol content. The latter are used principally in Europe and the United States for the extraction of eugenol.—E. G. Brown, *Colonial Plant and Animal Prod. Vol.. 5.*

New Australian Oils

Recently several interesting and important new-comers have reached the Australian essential oil market, and these are now gradually finding their way to the perfumery industries of Europe and America according to H. H. G. McKern and J. L. Willis (*P.E.O.R.* 48:16, 1957). The oils referred to are those from *Melaleuca ericifolia*, *M. viridiflora* and *Leptospermum liversidgei*.

The characteristic component of melaleuca ericifolia oil is linalool, present to the extent of about 30 to 40 per cent. Other constituents are α-pinene, dipentene and limonene, cineole, α-terpineol, sesquiterpenes and sesquiterpene alcohols. The terpene fraction (including cineole) amounts to about 40 per cent of the oil, while sesquiterpenes and sesquiterpene alcohols account for roughly 25 per cent. Specimens of linalool isolated from the oil by fractional distillation *in vacuo* are of good odor.

However, in addition to being a source of linalool, the oil has found a place in its own right as a perfumery oil, especially in soap perfume compounding. No doubt the natural fixative qualities of the sesquiterpenes with which the linalool is associated assist materially in giving the oil the perfumery characteristics observed.

Recent researches have shown that *M. viridiflora* of the eastern Australian coast can give rise to three different types of oil. One, consisting of a complex mixture of cineole, terpenes, α-terpineol, sesquiterpenes and the crystalline sesquiterpene alcohol viridiflorol, m.p. 73°-75°, is somewhat similar in composition to niaouli oil ("gomenol") of New Caledonia and cajuput oil of Indonesia. Two other forms, however, have recently come on to the market in response to the increasing demand for nerolidol.

The first of these forms is most remarkable inasmuch as it yields oils consisting almost entirely of nerolidol.

Apart from nerolidol, the oil contains small quantities of sesquiterpenes and other sesquiterpene alcohols, and a trace of benzaldehyde (less than 0.1 per cent). Nerolidol, prepared from this oil by fractional distillation in *vacuo*, has an excellent odor.

The second of the forms of *M. viridiflora* is variey "A," which is now being distilled on a large scale. The oil of Variety "A" consists virtually of a simple binary mixture of nerolidol and linalool, the latter being present to the extent of about 20 to 50 per cent.

This oil is an excellent source of both linalool and nerolidol, and, by reason of the large boiling-point difference, these may readily be separated by fractional distillation *in vacuo*.

Another oil which is beginning to reach the essential oil market, at present in limited quantity, is the oil distilled from the foliage of *L. liversidgei*. The oil, obtained in about 0.5 per cent yield by steam-distillation of the foliage, is pale to deep amber in color and contains about 50 to 70 per cent citral. Apart from a little linalool and α-pinene, the remainder of the oil consists chiefly of sesquiterpenes.

Citral is readily separated from the oil by the usual methods and is of fine odor.

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Soaps, detergents, creams, colognes, sticks and lotions containing G-11 are making dramatic sales increases because they combat the fundamental cause of body odor.

Body odor, particularly underarm odor, is caused by the action of skin bacteria on perspiration. Research has shown fresh perspiration to be odorless until it is contaminated with skin bacteria. G-11 combats these bacteria and thus removes the basic cause of the odor.

G-11 remains on the skin, even from soaps which are thoroughly rinsed off with water. Thus the deodorant action persists for days. Persons who have used deodorants with G-11 for three and four years show no immunity to their action.

Over seventy scientific articles, mostly by independent researchers, have been published over the last ten years attesting to the antibacterial and deodorant performance of G-11.

In addition, G-11 is not perceptible while on the skin, has no harmful effect on clothing, is compatible with perfumes, is readily soluble in soaps and cosmetic formulations, and is non-staining and non-irritating.

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Skin Research

Skin Penetration—Guillot and Valette

Oils, fats and excipients for ointments—The use of fatty substances to apply medicaments to the skin is justified by their physical properties and notably by their consistency. These liquid or semi-solid substances adhere to the epidermis to which they are applied; they may also be used in rubs; in the latter case, a mechanical effect is added to the physico-chemical action of the constituents.

However, it is by no means evident that the different excipients used are themselves absorbable and it should be known to what extent the vehicle promotes penetration through the skin of various substances incorporated in the ointment.

A favorable prejudgment has long been held with respect to lanolin because of the publications of Liebreich; according to this author, wool fat spread on the skin has the power of diffusing into the epidermal layers. This does not imply that this excipient can penetrate the skin, as has been assumed by a number of authors. Unna and his students have criticized this concept and have shown by histologic examination that lanolin, like most excipients, can penetrate only the superficial layers of the stratum corneum and does not penetrate the basal layers.

Bernhardt and Strauch applied known weights of different fats to the carefully washed skin of human subjects and after 48 hours could measure no reduction in weight.

However, as has been previously noted with respect to the cutaneous absorption of mercury ointments, penetration of oils and fats into the skin is possible but limited to hair follicles and gland openings. Lassar examined rabbits after inunction with various oils and found in the hair follicles droplets that could be stained with osmic acid. v.Sobieranski obtained analogous results using petrolatum in the presence of Berlin blue as did Sutton with olive oil and lard colored with fuchine or scarlet. Under the most favorable conditions the opening of the sebaceous gland canal was colored, but never the base of the hair follicle.

These results are improved by the mechanical action of friction and the importance of the viscosity of the excipient is emphasized here. In this respect, lanolin is improved, since on simple application other vehicles may penetrate better. The effect of pressure during friction is to promote passage of the ointment into the hair follicles by expelling air acting as a barrier. Nevertheless, there is no true absorption, since the fatty substance does not reach the interior.

The most divers opinions have been expressed on the respective value of different excipients as concerns their ability to penetrate the skin and is not possible to mention all publications on the subject.

Sutton has shown that colored petrolatum and mineral oils produce visible traces only on epidermal surface; vegetable oils reach the openings of the follicles and the sebaceous canals; animal fats stain the entire opening of the sebaceous glands and the upper half of the follicles. According to Harry, oleic acid is better able to penetrate the hair follicles than are the fats. v.Czetsch-Lindenwald, after applying various excipients to the skin, checked their presence in the sub-cutaneous tissue; chemical tests and the use of deuterium tagged glycerides showed over-all negative results. The author concluded that ointment excipients, whether fats, lanolin or petrolatum, are not absorbed by the skin. Kvorning obtained analogous results: no absorption was shown in 48 hours in the case of paraffin, lecithin or cholesterol applied to the human forehead.

Most authors who have made a comparative study of cutaneous absorption of medicaments applied in a solution of an organic liquid or incorporated in an ointment have obtained better results with the liquids. According to Macht, Zondek or Bliss, alcoholic vehicles are better than fatty vehicles for skin absorption.

Emulsified excipients seem in certain cases to offer advantages over petrolatum, fats and other traditional vehicles when absorption by the skin is sought.

Moncorps, investigating oil-in-water and water-in-oil emulsions, has shown that mixtures better promote the absorption of salicylic acid than do fats and petrolatum.

Strakosch and his collaborators have compared the penetration of sulfamides applied to the skin in different ointments. Emulsified vehicles of the water-in-oil type gave the most favorable results. According to Ducommun, the absorption of salicylic acid by the human skin is also improved by excipients with an aqueous continuous phase, as in stearate creams, starch glycerite and bentonite.

In any case, with emulsified excipients, the lipid phase alone appears capable of penetrating into the follicles and the sweat gland openings. This is evident from the experiments of Harry who applied to the skin emulsions containing a water-soluble dye. Whether the emulsion was oil-in-water or water-in-oil, the dye always remained at the surface of the skin.

The transfer of medicaments in the vehicle across the skin is subordinated to the miscibility of the vehicle with the various constituents of the cutaneous surface. It is important then that the composition of the vehicle be adapted to the composition of the sebum, since the sebum constitutes the first obstacle to absorption of substances by the skin.

On the other hand, the transfer of a medicament from a vehicle to sebum

with which the vehicle is not miscible is possible if the medicament itself is very soluble in sebum and is in a vehicle as a suspension. The distribution coefficient for the active substance related to the sebum and the vehicle is the important consideration for each substance, since the vehicle itself is usually not absorbed.

Summarizing, although ointment excipients are not absorbable by the skin, they can more or less influence the absorption of the active substance because of mechanical action in the application of the ointment, by entrainment of the active substance into skin openings, or by providing a physical state suitable for absorption.

Wetting Agents. The use of wetting agents in dermatologic therapy constitutes a notable advance in obtaining vehicles which promote the cutaneous penetration of medicaments.

Duemling investigated the advantages of using substances such as alkyl sulfonates, aryl sulfonates, etc. . . . one of the most active compounds, according to this author, being the dioctyl ester of sodium sulfosuccinate. However, a large number of these wetting agents dissociate in water; their solutions are alkaline and therefore irritating to the skin.

Herrmann, Sulzberger and Baer introduced in therapy, as penetresols, mixtures of xylene, propylene glycol and a sulfonated wetting agent (dibutyl or dihexyl ester of sodium sulfosuccinate) with antipyrine to make the xylene and aqueous solution miscible. A simpler mixture of sodium alkylbenzene sulfonate, propylene glycol and antipyrine can be used. With these vehicles, MacKee, Sulzberger, Herrmann and Baer noted penetration into the follicles, from there into the adjacent dermis and then into the germinative layer of various substances: iron and ammonium citrate, bismuth derivatives, sulfanilamide and dyes.

The solution of an active principle in a mixture of mutually dissolved aqueous and lipid phases seems to be cutaneous penetration.

Sweat Composition

Sweat contains most of the constituents found in the urine according to E. F. St. John Lyburn (*J. Physiol.* 134: 207, 1956). The sweat glands may on some occasions play an important role as an excretory organ. An apparatus is described whereby sweating under conditions of wet heat can be induced for considerable periods of time without rise in body temperature. The composition of sweat induced by dry heat and by wet heat has been compared with that of normal plasma in a large number of subjects. The inorganic constituents of sweat under both sets of conditions are less concentrated than in the plasma, with the exception of potassium. The organic constituents, with the exception of glucose and uric acid, are more concentrated. In a smaller number of subjects, direct comparison was made of the composition of blood and of wet-heat sweat: the results were essentially similar to those obtained by comparison with normal plasma. The main inorganic constituents of dry-heat sweat are from three to 3.5 times more concentrated than in wet-heat sweat, reflecting the partial evaporation from the secreted sweat under the former conditions and dilution with condensed steam under the latter. The remaining inorganic and all the organic constituents of dry-heat sweat are considerably less concentrated in relation to those of wet-heat sweat, indicating more active excretion under the latter conditions.

Aging Skin

The characteristics of the aging skin are reviewed by M. Waisman (*Journ. Fla. Med. Assn.* 43:452, 1956). A variety of pigmented and hypertrophic lesions are prominent among the skin changes associated with aging. Most of them are benign, some have potentialities for changing into malignant growths, and others are malignant from the start. The concept of autosensitization, whereby products of tissue destruction elaborated in a localized inflammatory lesion ignite an explosive allergic reaction of the skin, is suggested by the author as an explanation for persistent and eczematoid eruptions in aging persons. This phenomenon is usually provoked by overtreatment with topical medication. Nutritional inadequacy is synonymous with the faulty diet of many aged persons, but vitamin deficiencies are dermatological rarities. Dermatoses are often fallaciously interpreted as products of avitaminosis. Dermatitis of the corners of the mouth is a common abnormality of elderly people. Often incorrectly attributed to "vitamin deficiency," the eruption actually represents an infection that depends upon anatomic changes in the region of the labial commissures, such as exaggerated laxity and infolding of the tissues.

The frequent occurrence of pruritus in the senile skin derives from the anatomic and biochemical changes of aging. Itching can often be attributed to the effect of excessive dryness, which is an accompaniment of the wasting of epidermal structures and which results in diminished oiliness and in dehydration of the surface. Contact with woolen garments compounds the irritation, as the fibrils of wool prick the skin. To this may be added the irritative action of soap and detergent retained in laundered clothing and bed linen as a result of insufficient rinsing.

The Sebaceous Layer

The sebaceous layer of the skin protects the skin from the action of a aluminum chloride solution at pH 2, according to N. Hunziker and R. Brun (*Dermatologica* 113:288, 1956) but this has to be further investigated in terms of mechanical factors, as well as pH variations. The variation of sebum with age and sex and its regeneration time after degreasing have a practical meaning. Although the sebaceous layer (on the forearm) is thinner in women than in men, this does not necessarily mean less protection. On the forehead of men, the regeneration time of the sebaceous layer varies from four to eight hours. The advice of Unna, given in 1898 is still applicable: "The usual washing in the morning should be replaced by thorough cleansing at night."

Achrocort Cream (Lederle) contains 30 mg. of tetracycline hydrochloride and 10 mg. hydrocortisone acetate in each gram of cream which is packed as 5 gram tubes.

Placidyl (Abbott) is a hypnotic-sedative containing ethchlorvynol, which is not a barbiturate. The preparation is available as 100 and 200 mg. capsules in bottles of 100 and 1,000.

Pacatal (Warner-Chilcott), described as a "phrenotropic or normalizing agent" which does not "flatten" the mental patient is now available for distribution and sale in the United States. It is available in bottles of 100 and 500 tablets of 25 and 50 mg., as 100 mg. tablets in bottles of 500 and in 2 cc parenteral ampoules containing 25 mg. per c.c.

Modane Liquid (Warren-Teed) contains in each 5 cc. teaspoonful, 37.5 mg. of danthron and 12.5 mg. of calcium pantothenate, for precision dosage in treating constipation in the pediatric, geriatric and convalescent patient. It is available in one pint bottles.

Industry's Books...

Organic Syntheses, *Vol. 36, by N. J. Leonard, Editor-in-Chief and contributors, 120 pp., John Wiley & Sons, Inc., New York, (1956), cloth,* **$3.75.**

This is an annual publication of satisfactory methods for the preparation of organic chemicals. Present volume includes: Bischloromethyl Ether, a-Chlorophenylacetic acid, N-2-Cyanoethylaniline, 1-Cyano-3-phenylurea, 1,2-Cyclodecanediol, Cyclodecanone, Diazomethane, 1,1-Dichloro-2,2-difluroethylene, N,N′-Diethylbenzidine, N,N-Dimethylselenqurea, Ethyl Diazoacetate, B-Ethyl-B-Methylglutaric Acid, Ferrocene, 2-Furoic Acid, D-Gulonic-y-Lactone, n-Hexyl Fluoride, 6-Hydroxynicotinic Acid, 4-Iodoveratrole, Laurylmethylamine, p-Methoxyphenylacetonitrile, 3-Methyl-4-Nitropyridine-1-oxide, a-Naphthyl Isothiocyanate, o-And p-Nitrobenzaldiacetate, 1,4-Pentadiene, N-Phenylbenzamidine, Propioladehyde, Putrescine Dihydrochloride, 2-Pyrrolealdehyde, Sebacil, Sebacoin, a-Sulfopalmitic acid, Tetraethyltin, Tetrahydrothiophene, p-Toluenesulfonic Anhydrice, 2,4,6-Tribromobenzoic Acid, Subject Index.

Your Heart and Vitamin E., *by Dr. Evan Shute, Past President of the Canadian Society for the Study of Fertility, and Dr. Wilfrid Shute, Chief Cardiologist and Co-Director of the Shute Institute For Clinical and Laboratory Medicine, Canada, 137 pp., Published by The Cardiac Society, Detroit, Distributors The Devin-Adair Co., New York, (1956), cloth* **$3.**

This book was written for the layman. It presents evidence that an effective treatment—and important prevention for heart conditions—has been found. Drs. Evan and Shute have had remarkably consistent success with Vitamin E, whose specific correction of heart ailments—and many circulatory diseases—is bringing about a revolution in the field of medicine. Also in these pages will be found information on the beneficial results of vitamin E in many other conditions, such as high blood pressure, arteriosclerosis, acute rheumatic fever, varicose veins, diabetic complications, gangrene, indolent leg ulcers, Buerger's disease, burns, certain eye diseases, nephritis, and miscarriage, to mention a few.

Practical Pediatric Dermatology, *by Morris Leider, M.D., Associate Professor of Dermatology and Syphilology, New York University Post-Graduate Medical School, 433 pp., Illus., The C. V. Mosby Co., (1956), cloth,* **$10.50.**

This book fills a very great need for theoretical and practical information on skin diseases of infants and children. The author of this work has fashioned a text that not only skillfully weaves scientific theory into feasible praxis for recognizing and managing cutaneous diseases of the young, but he has revived, refurbished, and re-presented in a usable way many ideas and procedures that are ageless. Contents: Chapters I—Basic Science Aspects of Dermatology. II—Principles of Dermatologic Diagnosis. III—Principles of Dermatologic Therapy. IV—Dermatoses Attributable to Physical Causes. V—Dermatoses Caused by Pyogenic Bacteria. VI—Superficial Fungous Infections of the Skin, Hair, and Nails. VII—Dermatoses Caused by Viruses. VIII—Zoonoses: Dermatoses Caused by Metazoil. IX—Dermatoses Based Principally on Allergic Mechanisms. X—Dermatoses Caused by the Mycobacteria. XI—Reciprocal Relationships Between Cutaneous Diseases, Other Organic Diseases, and Systemic Diseases. XII—Hereditary, Congenital, Dysplastic, Nevoid, and Neoplastic Processes. XIII—Important Dermatoses Not Etiologically Classifiable. XIV—A Miscellany of Minor or Uncommon Dermatoses of Infants and Children.

Documentation In Action, *by Jesse H. Shera, Allen Kent, and James W. Perry, all at Western Reserve University, 471 pp., Reinhold Publishing Corp., New York (1956), cloth,* **$10.**

This book records the proceedings of the 1956 Western Reserve Conference on the Practical Utilization of Recorded Knowledge. It presents a concerted review of the science and art of effectively organizing and utilizing recorded information. The entire book brings together, for the first time, the many diverse documentation interests. Recent advances are summarized and evaluated with particular attention to systems, equipment for making information available as needed, use of recorded information in research and in decision-making and education for librarianship.

Clinical Selections in Dermatology and Mycology, *by Frederick Rehm Schmidt, A.B., M.D., Associate Professor of Dermatology, Northwestern University Medical School, with contributions by Thirty-Six Specialists from various lands, 505 pp., Charles C. Thomas, Publisher, Springfield, Ill., (1956), cloth* **$10.**

This is a practical book on skin diseases and mycotic infections that should be of interest to all practitioners. Each contribution is a single chapter written by a special authority on a specific disease. Treatment of each disease is limited to the use of as simple remedies as possible. The drugs used are listed chiefly in the United States Pharmacopoeia and the National Formulary. Original methods of treatment of both "classic" or "cosmopolitan" and so-called tropical skin diseases are emphasized. An important chapter deals with dermatitis and eczema. Treatment of these most common skin diseases is amplified with numerous prescriptions.

The Chemistry and Technology of Leather, *Vol, I—Preparation For Tannage, Edited by Fred O'Flaherty, William T. Roddy and Robert M. Lollar, Tanners' Council Laboratory University of Cincinnati, American Chemical Society Monograph Series No. 134, 495 pp., Reinhold Publishing Corp., New York (1956), cloth,* **$14.**

This volume describes the histology and composition of animal skins and the operations performed on these skins during beamhouse practice. Fully discussed are skin structures, the proximate analysis of animal skins, the chemistry of collagen, methods of minimizing skin deterioration, optimum soaking conditions, methods and equipment for unhairing, the influence of liming on collagen, the effects of bating on leather quality, the role of picking systems in tannage preparation, and degreasing pickled skins.

Accepted Dental Remedies, *22nd Ed., for 1957, American Dental Association, 212 pp., Paper binding,* **$2.**

This work is published annually under the immediate supervision of the Council on Dental Therapeutics of the American Dental Association. It is designed to be both a listing of commercial products which are currently accepted by the Council and also a description of nearly all of the official and non-official therapeutic items which are of demonstrated usefulness in dental practice.

(*Continued from page 378*)

on new methods of manufacture has been phenomenal. It is reasonable to say that on the "practical" side P & G has an outstanding technical research department.

Research and development activities at P & G are carried out by a number of different units in the company. They fall into four principal research categories: technical; market; economic; and management methods.

The market research department is headed by a manager who reports to the vice president—advertising. This department was established in 1924 and employs about two hundred. Of these, over one hundred are trained young women who travel in groups making consumer surveys. Outside organizations are also employed for this purpose when results can be obtained more satisfactorily in this manner.

The economic research department, established in 1923, is headed by an economist manager who reports to the administrative vice president.

Fiscal Policies

It has long been the nature of this business—soap, detergents, vegetable oils, and animal fats—to carry at time large inventories.

The proper handling of inventories constitutes P & G's principal fiscal responsibility.

Each department of the P & G business has its separate appropriations and budgets. All advertising and promotion budgets are on an individual brand basis.

The comptroller reports to the administrative vice president, and is responsible for keeping the management informed as to how various business developments will affect profits.

A second prime problem at P & G in the fiscal policy area is the Overseas Division.

P & G's world-wide foreign business has been established in the past twenty-seven years, and the company financed its growing overseas business largely out of profits made in each country.

Production Efficiency

Changes in managerial problems occur with extreme rapidity at Procter & Gamble and, by necessity, managerial patterns must likewise be flexible.

This flexibility would be required if the company were only standing still, much less doubling its volume each decade. In manufacturing, particularly, these changes require at times a profound movement, based upon physical assets of a fixed nature, with time as a vital factor.

A sales promotion department may give away a tube of tooth paste to every household in the United States (as P & G recently did) and thus develop overnight a market of tremendous proportions. The production necessary to meet the demand is not that quickly arranged. And with the establishment of a food prod-

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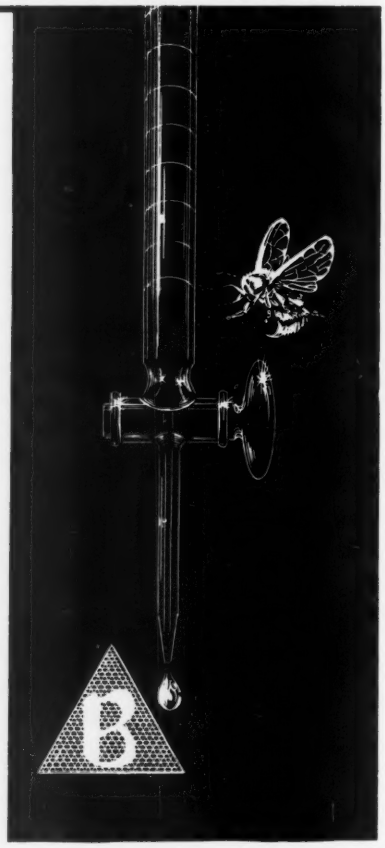

Trade Literature

Druggist Vitamin-Sales Aid

In the fight on the part of pharmaceutical manufacturers to get the vitaman business back to the drug store (27 per cent of the business is done by house-to-house, mail order, and non-drug retail outlets.), E. R. Squibb & Sons, 745 Fifth Avenue, New York 22, has issued a booklet entitled "Vitamins and Your Sales Success." This 80-page booklet is for the education of pharmacists in drug stores and contains six sets of questions, one for each lesson in the book. The lessons are: The role of vitamins in nutrition; Functions of individual vitamins; Simplifying the many vitamin products; Creating sales openings for vitamins; Questions and answers about vitamins; and General principles of retail selling.

Flavor for Pharmaceuticals

Polak's Fruital Works, Middletown, N. Y., has issued a pamphlet titled Flavors for Pharmaceutical Formulations which list various types of flavors available for many categories of drug preparations.

Merck Service Bulletin

The Chemical Division of Merck & Co., Rahway, N. J., has published a Merck Service Bulletin—a cloth bound book of 186 pages entitled Hydrocortisone and Cortisone. The book gives complete chemical, analytical, and pharmaceutical information; physiologic, pharmacologie, and clinical information; and an annotated bibliography of more than 200 papers.

Therapy with Meti Steroids

Physicians throughout the United States have received the Complete Manual of Therapy with the Meti Steroids, a 149-page bound book prepared and printed by Schering Corporation, Bloomfield, N. J. The book contains eight chapters on the use of the newer adrenocortical steroids. It traces the development of coritcosteroid therapy up to the present. Specials are devoted to the chemistry and comparative pharmacology of Meticorten and Meticortelone, the clinical significance, established indications, promising indications and current investigation.

Piperazine

A recently published booklet on piperazine, a compound which is receiving increased attention as a pharmaceutical intermediate, is available from The Dow Chemical Company, Midland, Michigan. The booklet describes the properties, reactions and uses of the chemical, and also gives toxicological and handling information. Piperazine and certain of its derivatives have proved effective as anthelmintics, and they are used as intermediates in certain of the new antihistaminics, motion-sickness remedies, and tranquilizing drugs. Piperazine derivatives have been tested as fumigants, insecticides, fungacides, and antimicrobials.

Short History of Glass

Corning Glass Works, Corning, N. Y., has published a beautifully illustrated, three-color booklet entitled "This Is Glass." The 64-page booklet, containing charts, drawings, and 130 photographs, gives a short history of glass, tells of the various kinds of glass—when they came into being, how they are made, and how they are used—and just about proves that Corning can do anything with glass.

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ucts division and enlargement of toilet goods, production at P & G has been a major problem in recent years.

The problem has been handled extremely well. The company pioneered in plans to assure employees economic independence in old age, and also in stabilized employment.

The buying department of most manufacturing organizations is usually under the authority of the production head. However, for many decades purchasing at P & G has been a top level matter. Until 1918 the president of the company had direct responsibility for all purchases. Since that date, the vice president in charge of purchases has had buying authority.

There are two reasons for this variation from what is considered normal procedure. The principal reason is that substantial importance has always been attached to this function at P & G. Another is that the volume of purchases dollar-wise has long been equal to about half the sales volume (direct labor costs are less than 10 per cent of manufactured costs). It can readily be seen that the prices paid for equipment, supplies, and raw materials (some of these being drawn from rapidly fluctuating markets) could automatically affect profits to a great degree.

Many experienced observers hold that the Procter & Gamble sales organization is the warp and woof of the company's business. Such a view is far from correct, as previous categories of this study show. Nevertheless, the sales effort is excellent.

There are, as of today, 1,744 employees in the domestic sales division. This is less than 10 per cent of the total company personnel. These men are organized into eleven sales departments, of which the largest is the one for household soaps and detergents. With variations, all eleven maintain about the same structure. In immediate charge is a sales manager under the vice president—sales. The sales manager works through six geographic divisions, each under a separate division manager in charge of sales for his particular section of the country. Under each division manager are from five to seven district managers, each of whom handles a district sales office, of which there are thirty-nine in all. Each district manager has under him two or three unit managers. From seven to ten salesmen report to each unit chief.

Managers of each products division are responsible for initiating proposed selling prices on goods which will return the company a satisfactory profit. Selling prices are authorized by The Procter & Gamble Distributing Company's management committee on recommendation of the products division managers with the concurrence of the executive vice president. Unusual situations are brought to the administrative committee. No attempt is made by the company to control its prices at retail, except that commodities

(Continued on page 394)

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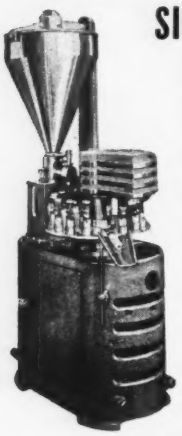

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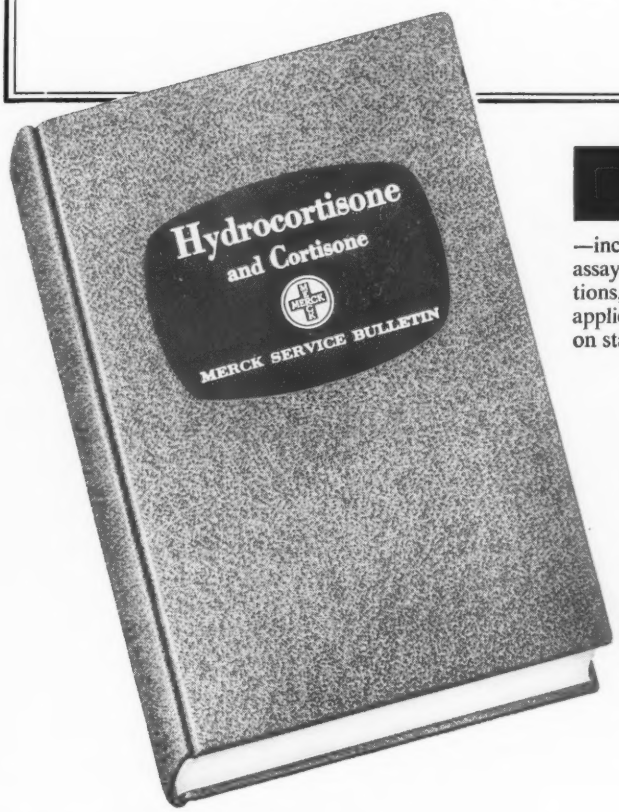

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Readers' Questions . . .

Astringent Lotion: *May I have a simple formula for a mild astringent, skin toning lotion to be used after cleansing the skin with a cream?* LAFAYETTE.

A formula of the type you have in mind consists primarily of a mixture of alcohol and water, the alcohol content varying from about 10 to 30 per cent depending upon the solvent action desired. Small proportions of menthol and aluminum chloride should be added and the selection of perfume is of paramount importance. Chill before filtration to assure continued clarity.

Acid pH Cream: *We have a cream of the oil-in-water type that consists of about 25 per cent of lanolin emulsified with stearic acid and triethanolamine. We would like to prepare this with an acid pH value and would appreciate any suggestions you can offer.* DULUTH.

The cream you describe cannot be acidified without complete breakdown, since triethanolamine soaps cannot exist in acid media. However, by replacing the stearic acid and the triethanolamine with an acid-emulsifying glyceryl monostearate (glyceryl monostearate along with an acid-stable emulsifier in place of the usual soap) and adding lactic or citric acid, an acid cream can be made.

Neatsfoot Oil Ointment: *I have been using a neatsfoot oil ointment in my dermatological practice for a number of years, but my supplying company has recently discontinued manufacture of this item. The neatsfoot oil used in making this ointment was deodorized and I would appreciate a source of supply for this oil, as well as indications for making this ointment.* WACO.

An oil supplier informs me that no large supplier offers a deodorized oil, although it is possible that is available in small lots. However, a highly purified grade of the oil has little odor, although it is not completely odorless. You might experiment with mixtures of the oil and petrolatum to obtain an ointment of proper consistency. If necessary, paraffin or ozokerite can be used to harden the ointment and a small amount of perfume may cover the odor.

Anesthetic Ointment: *I would appreciate your assistance in formulating an anesthetic preparation for application to intact skin, preferably in ointment or cream form.* MIAMI.

One of the paraamino benzoic acid esters is usually used in anesthetic creams, the ethyl ester or benzocaine being relatively common. This can be formulated as a ten per cent mixture with white petrolatum; a vanishing cream formula will be more elegant and less greasy in application. This type of preparation can be made according to the following formula: Glyceryl monstearate, self-emulsifying 12.5 parts, lanolin 2.5 parts, glycerin 5.0 parts, benzocaine 10.0 parts and water to make 100 parts. The simplest way to make this cream is by gently heating all components together and stirring until a homogeneous mixture results and then stirring until cold.

Absorption Base Cream: *We have a number of formulas for the preparation of all-purpose, cleansing or hand creams specifying the use of type A absorption bases. Can you tell us what is meant by this designation?* BRAZIL.

It is our recollection (which may be wrong) that broadly absorption bases have been classified as type A or B depending upon whether they consisted of modified lanolin or lanolin derivatives alone or already mixed with petrolatum, but we cannot say which is which. Incidently, the formulas you included are for the most part unworkable because they contain far too much water in relation to too little lanolin and absorption base to give satisfactory water-in-oil emulsions.

Skin pH: *We would like to determine the pH of customers' skin to determine relative acidity and alkalinity and advise as to proper cosmetic treatment. Can you give us any suggestions as to how this could be done?* RICHMOND.

This is a smart promotional stunt but we are afraid that this may not be technically feasible. Data we have seen indicate that skin acidity varies according to the location on the body, time of day, sex, etc. Although some results could be obtained by applying moistened universal indicator paper to the skin, this is a quite untrustworthy method. Even electrical hydrogen ion equipment requires special electrodes. Outside of specially equipped research laboratories, determination of skin pH values tend to be meaningless.

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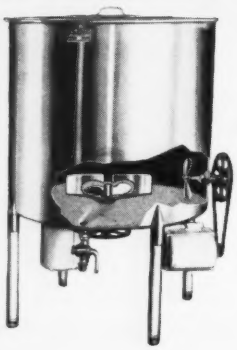

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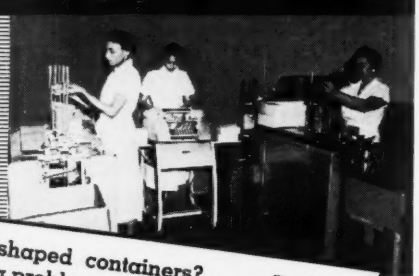

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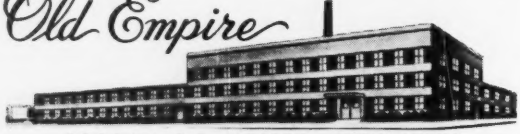

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(Continued from page 390)

(such as dentifrices, shampoos, and home permanents) which are generally fair-traded are fair-traded by the company.

All retail dealers who handle products which the company makes can buy them direct. This roughly covers every retail grocery, drug store, variety store and department store. In some territories, wholesalers handle a sizable amount of the company's business, particularly with smaller stores.

Procter & Gamble has long excelled in sales to the grocery trade, but not in drug store items and/or toilet articles. Under these circumstances, the growing importance of the super-market has been of unusual benefit to this company. A separate toilet goods division, established since 1950, is the management's answer to the problem of toilet article sales as against grocery items. This new division has already justified itself handsomely.

Procter & Gamble has pioneered in advertising. Through the years, it has continued to blaze the trail in effective advertising sales campaigns. P & G is, and long has been, the leading advertiser of the industry in the five major media: television, radio, national magazines, newspapers, and Sunday newspaper sections.

Operating in one of the most keenly competitive of all business areas, P & G continues to compete with itself as well as with others by marketing more than one product of similar class, price, and use. Such procedure tends somewhat to preclude any advantage of advertising the company's name in conjunction with its products. This explains the scant mention of Procter & Gamble either on box covers or in advertising programs. It also points up the fact that many informed individuals think of P & G as purely a soap marketing organization.

The sales of this company throughout its existence have shown a continuing capacity for growth and, in the past ten years, have risen from $309 millions to over $1 billion. During the last century, total American production on the average has doubled every twenty years. In the last ten years, total production in this country increased 85 per cent dollar-wise compared with the over 200 per cent increase for P & G noted above. Some of P & G's gain has been through acquisitions, but not a significant amount. While these handsome increases in sales volume were of course secured by sales vigor, weaker research and production, as well as inferior sales efforts, prevented this company's competitors from doing as well, when account is taken both of profit on sales and sales.

Such philosophy and actual practice have for generations produced at P & G a wealth of men equal to the expansion ahead. These men assume command at top level while they still have twenty to twenty-five years of active business life ahead. Since incorporation in 1890 the business has had but four presidents. This is what makes for a stabilized philosophy

and procedure. William Cooper Procter succeeded his father, William Procter, as president in 1907. Richard R. Deupree served as president for eighteen years prior to 1948, and since that date has served as chairman of the board. Neil H. McElroy joined the company in 1925 and, advancing through the ranks, became president in 1948 at the age of forty-four. In practically all instances, men at the top positions have been placed there while in their forties. And no men have been left in positions of responsibility with which for any reason they find themselves unable to cope at any time. The job at supervisory levels is bigger than the man at P & G.

It is unusual that personnel selection and training at P & G have long been departmental matters. College recruitment is carried on by the personnel staff from seven different groups; advertising, buying and traffic, comptroller's office, overseas division, sales personnel, research and technical, and cellulose and crushing.

Through the competence of a management entirely free of nepotism, alert to responsibilities and opportunities, concerned with human consequences as well as effective and profitable administration, eager to find and quick to est and apply improvement, Procter & Gamble has met its social as well as its business responsibilities in all directions and at all time. Its unity of command is extraordinary. It has created an excellent organization and a sound working atmosphere.

NEWER NAIL ENAMEL MATERIALS

(Continued from page 309)

	Per Cent
Nitrocellulose	11.4
Tricresyl phosphate	8.3
Dibutyl phthalate	13.5
Ethyl acetate	31.5
Butyl acetate	30.0
Ethanol	4.9
D&C Red No. 19	0.1
D&C Red No. 31	0.2
Oil Pink	0.1

For testing purposes, all formulations were coated on cold rolled steel panels and allowed to dry at ambient room temperature for a period of four hours, after which time, small sections of each panel were removed and placed into a weatherometer. These samples were removed periodically ana checked for gloss retention, color retention, adhesion, and flexibility. Other portions of these panels were tested for immediate flexibility, gloss, and color.

CONCLUSIONS: Without exception, formulas Nos. 1, 2, and 3 proved superior to the control enamels used in these tests with regard to aged flexibility (initial flexibility of all samples were approximately equal), gloss and color retention, hardness, and adhe-

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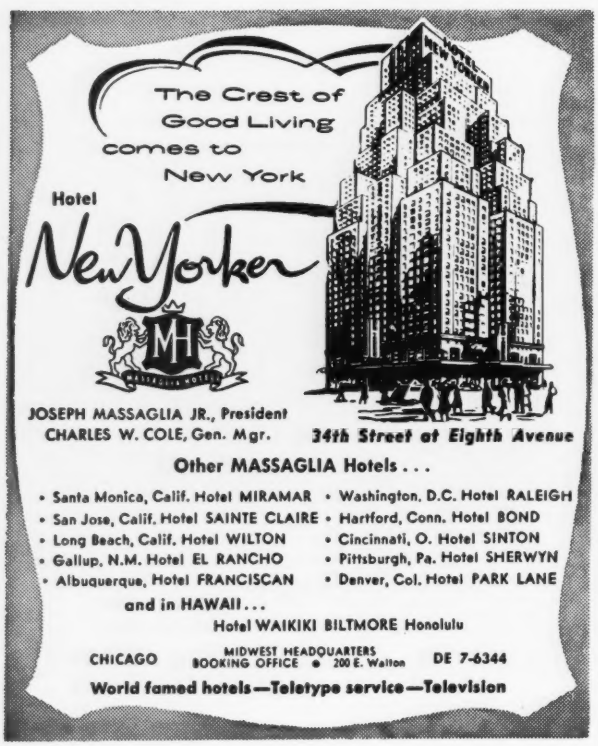
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sion. Adhesion tests were run on the fingernails of several subjects.

As indicated by the foregoing statements, formulations based upon the newer developments in synthetic resins and plasticizers out-performed enamels currently available. The author has not fully investigated the economic structure of nitrocellulose-based enamels versus synthetic resin-based enamels. However, with proper formulation, economy should present no problem.

This study by no means exhausted the possibilities of using specialized resins in nail enamel manufacture. On the contrary, it should be borne in mind that there are literally hundreds of raw materials from which to choose, among them apparently as yet not investigated are such materials as polyvinyl acetate emulsions, or alkyd emulsions, as well as butadienestyrene, and acrylic latices. The author is currently engaged in evaluating some of these emulsion materials and at a later date expects to publish results. It is always well to keep in mind that the success or failure of a nail enamel might well rest upon the proper choice of a resin or resins.

COSMETICS CONTAINING SUCROSE ESTERS

(Continued from page 313)

This lotion imparts an emollient, non-tacky film to the skin. The film is moderately water resistant.

Washable Ointment

		Parts By Weight
A.	Stearic Acid	10.0
	Span 60	5.0
B.	Sucrose Mono-oleate	10.0
	Water	69.8
C.	Zirconium Oxide	5.0
	Antiseptic Oil Mixture	0.2

Heat the stearic acid and the Span 60 to 75° C. Dissolve the sucrose oleate in the water, heat to 75-80° C. and add to part A with stirring. Cool to approximately 40° C., add the zirconium oxide and oil mixture. Blend until uniform. This is a soft white ointment which spreads easily and can be washed off readily.

Waterless Hand Cleaner

		Parts By Weight
A.	Veegum H. V.	2.5
	Glycerin	7.5
	Methyl Paraben	0.2
	Sucrose Monostearate	7.5
	Water	72.3
B.	Deodorized Kerosene	10.0

Wet the Veegum with the glycerin. Dissolve the sucrose stearate and preservative in the water. Heat to 80-85° C. and add to the Veegum-glycerine mixture. Stir until smooth. Cool to approximately 50° C., add the kerosene and homogenize. This is a soft paste which spreads well. It lends itself to tube packaging.

Toothpaste

	Parts By Weight
Sucrose Monopalmitate	2.5
CMC 120 High Viscosity	0.8
Glycerin	10.0
Propylene Glycol	20.0
Methyl Paraben	0.2
Water	14.0
Mineral Oil	1.0
Dicalcium Phosphate	51.45
Soluble Saccharin	0.05
Flavor	1.0

Combine the CMC with the glycerin and propylene glycol. Dissolve the Tegosept M, saccharin and sucrose palmitate in the water. Heat to approximately 85-90° C. and add to the CMC, glycerin, propylene glycol slurry. Heat and continue to stir until the mixture is clear and uniform. Cool to room temperature and add the mineral oil and flavor. Gradually sift in the dicalcium phosphate, while blending.

The sources of supply of trade name products incorporated in these formulations follow:

Arlacel C	Atlas Powder Company
Span 60	"
Tween 60	"
G 1441	"
Arlex	"
Absorption Base 2691	Morningstar, Nicol, Inc.
DC Silicone 555	Dow Corning Corporation
Veegum H. V.	R. T. Vanderbilt Company

The sugar esters can be readily incorporated in a wide variety of cosmetic and pharmaceutical products. Lotions, creams and ointments prepared with the sugar esters show excellent stability. Those described above are quite attractive in appearance. The sugar esters do not impart tack, but do appear to contribute to the smoothness and softness of the skin.

The investigation described herein was supported by the Sugar Research Foundation, Inc., New York, N. Y.

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THE WAVING EFFICIENCY OF COLD PERMANENT WAVE LOTION

(Continued from page 315)

of the pegboard, but only the linear distance between the first six pegs in a row on the board. B equals the linear distance measured in centimeters of the curled hair between crest one and crest six as measured when the curl is floating in the water.

C equals the length in centimeters of the straight hair used to obtain a curl that would contain six curl crests. This length is also a constant and is equal to 14.8 cms.

Substituting these constants the equation becomes:

$$100 \text{ per cent} - \frac{100 \times (B - 2.7)}{(14.8 - 2.7)} = \text{per cent waving efficiency}$$

Where B is the measurement obtained of the curled

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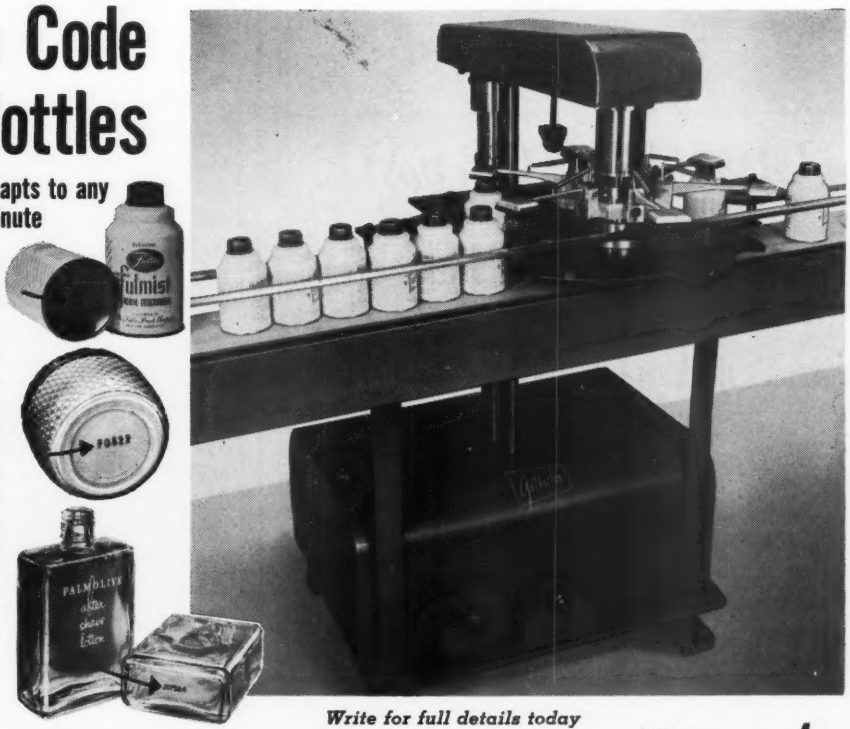

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hair and is the only variable. Now, if B equalled A, the per cent waving efficiency would be 100 per cent. Conversely, if B equalled C, the per cent waving efficiency would equal 0 per cent. Therefore, that part of the equation,

$\frac{B - A}{C - A} \times 100$ = per cent waving loss, and by subtracting this figure from 100 per cent we obtain the per cent waving efficiency.

The procedure and calculations described provide waving efficiency for a specific time interval. The procedure is then repeated at various time intervals to give a complete picture of the waving efficiency of a particular lotion under test. Customarily, we have run our determinations at 1, 3, 5, 10, 20, 35 and 60 minutes. Determinations are always run in duplicate and an average of the two results is used. Agreement within two per cent waving efficiency is considered satisfactory. Results are then plotted in graph form as a means of comparing different lotions.

I might say, at this time, that the hair used in all our tests is virgin straight hair purchased from a supplier. All the hair is uniform and all is from the same lot. It is shampooed, dried, and stored at 65 per cent relative humidity and a temperature of 72° F.

One set of results obtained using this method are shown in Figure 2. The waving or saturation time is plotted along the ordinate. The per cent waving efficiency is plotted along the abscissa. Let me emphasize that these curves do not indicate processing times that would be found under actual product use. They do, however, indicate relative degree of processing of a waving lotion under rigid and controlled laboratory conditions.

Figure 2 is a comparison of results obtained with waving lotions of different thioglycolate and free ammonia concentration. The three waving lotions tested are lotions that our company designates as high-test for resistant hair, normal strength for normal hair, and low test for dry, damaged hair. The high-test lotion is indicated here on the A curve. It has 7.24 per cent thioglycolic acid, 1.30 gm/100 ml free ammonia, and pH 9.36. The normal strength lotion is indicated here by the B curve. It has 6.83 per cent thioglycolic acid, 1.09 gm/100 ml free ammonia, and pH 9.35. The low test lotion which has 4.07 per cent thioglycolic acid, 0.58 gm/100 ml free ammonia is indicated on the C curve. It goes without saying that these lotion strengths vary somewhat in the industry. The high-test lotion shown by the A curve, attains a waving efficiency of 84 per cent. The B curve reached a waving efficiency of 77 per cent, and the C curve, 53 per cent waving efficiency. One thing that we noted in comparing these three lotions was that waving efficiency differences could be seen even though there was only a small difference in thioglycolic acid and free ammonia strengths between the lotions. For the purpose of comparison of the lotion on this graph, the same type of hair was used. Obviously, had the low strength lotion been used on truly damaged hair,

its waving efficiency would have been much greater. Using the same type hair was one sure way to test the validity of the method.

Another set of curves shows the importance of free (Fig. 3) ammonia in the lotion. The A curve represents a lotion containing 8.17 per cent thioglycolic acid, 1.21 gm/100 ml free ammonia, and pH 9.40. The B curve represents a lotion containing 8.36 per cent thioglycolic acid, 1.07 gm/100 ml free ammonia and pH 9.20. Looking at the curves we see that the A curve has a waving efficiency of 85 per cent, whereas the B curve has 79 per cent waving efficiency. As can be seen, the A curve attains a six per cent higher waving efficiency than does the B curve, even though the lotion represented by the B curve has a higher thioglycolate content. It does, however, have a lower free ammonia content. These lotions (on this graph) and other lotions with increased free ammonia when tested by this method show the same results. That is, a higher waving efficiency is obtained.

Figure 4 shows the waving efficiency attained by a monoethanolamine thioglycolate lotion and by an ammonium thioglycolate lotion. The A curve represents the ammonium thioglycolate lotion and it contains 6.84 per cent thioglycolic acid, 0.83 gm/100 ml free ammonia and pH 9.45. The B curve indicates the monoethanolamine thioglycolate lotions. It has 7.58 per cent thioglycolic acid, 2.46 gms/100 ml free monoethanolamine with pH 9.15. The A curve has a waving efficiency of 71 per cent. The B curve has a waving efficiency of 65 per cent. This graph is not intended to show or indicate a comparison between these two lotions. A comparison of waving efficiency here cannot be made because of differences in equivalent amounts of free monoethanolamine and the free ammonia. Obviously, if the amount of free monoethanolamine were higher, the waving efficiency would be greater for that lotion.

One possible objection to this method is the fact that it calls for only a single application of waving lotion to the hair; whereas in actual use in the beauty shop, the waving lotion is apt to be applied several times during processing. In this study (Fig. 5) the method was varied somewhat to attempt to determine the effect of several applications of waving lotion during the waving period. The same waving lotion was used to obtain both curves. This lotion had a thioglycolic acid concentration of 7.03 per cent and a free ammonia content of 1.2 gm/100 ml. The B curve was obtained with a single application of the waving lotion at each time interval. The A curve was obtained by resaturating the hair on some of the pegboards. I would like at this time to take a moment to go back to the explanation of the method. If you recall, in order to obtain any one point on a curve, a pegboard containing two grams of hair was saturated with lotion and allowed to process for a specific time. These time intervals were 1, 3, 5, 10, 20, 35 and 60 minutes each. At the end of the designated time the hair was

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neutralized and the curl was measured. By applying the measurement in a formula, the per cent waving efficiency was obtained. Now, looking at the A curve one sees a rapid rise in the curve. This is obtained by the resaturation of the hair which had a waving time of 20 minutes. This resaturation is made 10 minutes after the initial application of the lotion to the hair. At the end of the 20 minute interval, the hair is neutralized, measured and calculated which gives a per cent waving efficiency which is indicated here by the first black point on the curve. The hair which has a 35 minute waving interval is resaturated at 20 minutes resulting in the per cent waving efficiency indicated by the second black point. The third black point is the per cent waving efficiency obtained when the hair which had a 60-minute waving interval is resaturated at 10 minutes, again at 35 minutes, and neutralized at 60 minutes. Note here that the curve rises very sharply up to the first black point and then levels off rather sharply. We feel, therefore, that more than one application of waving lotion is apparently very effective in the early waving stages but not as much after 20 minutes. Whether this is true in actual on-the-head use has not been determined at this time.

Summary

A method is described which we have used in our laboratory to test the efficiency of a waving lotion on a swatch of hair. The effects of time of processing concentration of thioglycolate free ammonia and resaturation are reported.

Acknowledgment

The author wishes to express his deep appreciation of the great help and valuable assistance and suggestions received from William R. Markland.

DISPERSION OF PIGMENTS IN LIPSTICKS

(Continued from page 317)

Which affects the dispersion of pigments the most; the chemical and physical properties of the dispersion medium or the properties of the pigment? A number of dispersions of various pigments in various oils were studied, and, finally, improper wetting of pigment particles was suspected as the primary cause of lack of uniformity. During these experiments it was observed that pigment dispersions contain a lot of air. To find out whether it affects uniformity, a dispersion was vacuumed and a marked improvement was noticed. That gave a new twist to the course of the investigation. A thin layer of pigment was sprinkled on the surface of castor oil, and the beaker was placed in a vacuum jar. As the pigment particles sank in the oil, frothing was produced, indicating presence of gas adsorbed on the surface of pigment particles. This adsorbed film of gas, or perhaps vapor, may be the barrier responsible for incomplete wetting of pigment

particles. To verify this assumption, pigments were incorporated in oil under vacuum. After milling, the dispersion was vacuumed again. Microscopic examination showed a more even distribution of pigment particles. The dispersion was processed further by alternate chilling to dissolve more gas, and warming to expel it, with a steady gain in uniformity, that is

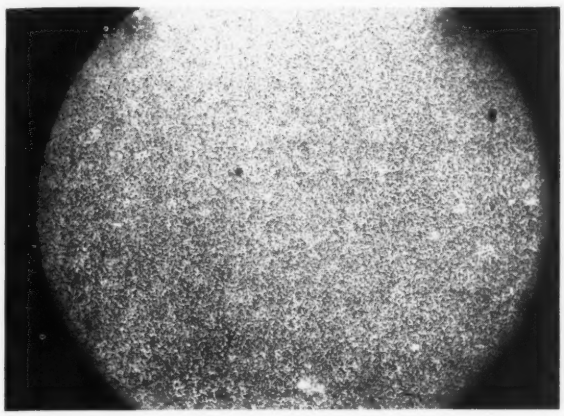

FIG. 7

illustrated in Figure 6. A lipstick made using the "vacuum process" pigment dispersion is shown in Figure 7. For comparison, Figure 8 illustrates the same type and shade of regular lipstick, at the same magnification.

The relation between the uniformity of pigment dispersion and the stability and appearance of finished lipstick is quite convincing. The "vacuum process" sticks have a highly glossy surface that has not suffered any change over a period of six months. And here may be an answer to the question of "what is expelled from a lipstick during its shelf life." Gas, that is adsorbed on the surfaces of pigment particles

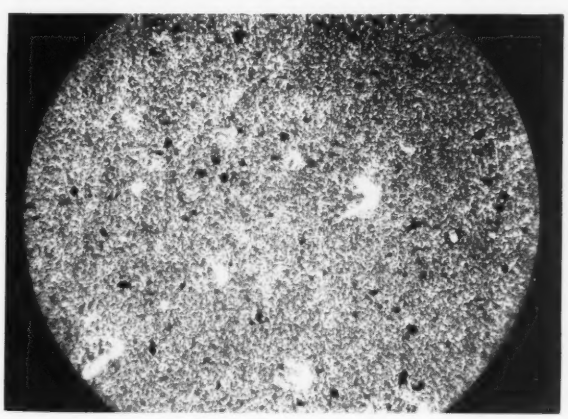

FIG. 8

diffuses slowly in the surrounding lipstick mass. Since gas solubility changes with temperature, gas may be expelled as equilibrium within the lipstick mass is restored after transition from a lower to a higher temperature.

Recognition of gas as a component in pigment dispersions imparts a new meaning to a number of things

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encountered in practice. For example, pigment flocs have a structure, as seen in Figure 9. This is a dispersion of pigments in castor oil. It is not unlikely that flocs are firm systems of three phases: gas—liquid—solid, that resemble foam. Organic foams are known to be very stable and it is interesting to note that free fatty acids have a marked affect on surface tension and, consequently, on the foaming tendency of vegetable oils. It might explain the importance that acid value of oils enjoys in the paint industry because of its affect on pigment dispersions. This jigsaw puzzle becomes even more interesting if foam suppressors, with silicones and cetyl alcohol among them, are considered.

Dispersion of pigments involves a complicated combination of surface phenomena: adsorption, wetting, surface tension, interfacial tension and formation of phase boundaries. Last, but not least, electrical charges must be considered. If a solid is suspended in a non-conductor, the charge that the solid particles acquire is determined by the dielectric constants of the medium and the solid. Mechanical force alone cannot

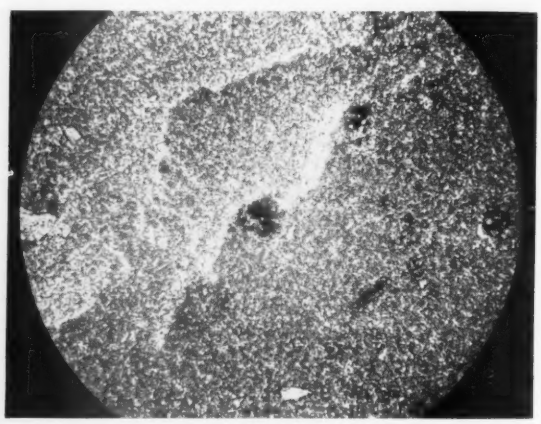


FIG. 9

produce a satisfactory dispersion. The tedious and elaborate "vacuum process" is of no practical value either. There is lot more to be learned about pigment dispersions in order to develop new methods to make better lipsticks. The cause of common disorders in the behavior of lipsticks has been established. The removal of it is a question of effective application of the principles of physical chemistry that govern pigment dispersions.

ADVERTISING TO DOCTORS

(Continued from page 319)

Abstract statements concerning the general value of a product simply are not appreciated unless they are backed up with clear explanations of "how-to-do."

Apparently this factor also is one basis of our finding that two kinds of illustrations are of major importance in capturing the doctor's attention and follow-up interest. The first kind is simply an illustration that

clearly implied "doing" or acting—the carrying out of an act which fits his medical experience. He is so oriented toward action that passive illustrations (e.g., a bottle, a label, a man simply sitting) have far less appeal than illustrations which imply meaningful medical behavior. The second kind of illustration is simply an extension of the first. If the action being illustrated demonstrates procedure in a way that facilitates communication of the ad message, the doctor apparently likes it even better.

On this point of the need for action implications in illustrations, I recently selected at random from our files 20 illustrated ads which research had shown had high readership and 20 illustrated ads with low readership. In the higher readership group of ads, 14 of the illustrations implied action, 6 of them were passive; in the low readership group, 7 implied action and 13 were passive.

Another generalization of importance is that the physician has a high degree of professional concern over the welfare of his patients, and is fully aware of the important consequences of his decisions. Coupled with this is scientific training and daily practice in the use and evaluation of evidence. Thus, he has learned the value of being skeptical until provided with the kind of evidence his training and experience tell him he can trust. At the same time, he has learned to mistrust guaranteed results, too large claims, evidence that is too perfect. He knows that even under apparently ideal conditions things can go tragically wrong.

Two consequences for his perception of medical advertising are clear but all too often not attended to by medical advertisers. The first is that ad claims should be backed up by scientific evidence and reputable authority. The doctor frequently looks for this in an ad and notes whether or not it is missing. Secondly, too broad or extensive claims run into lack of belief. For example, even though before-and-after treatment illustrations are, generally speaking, good advertising practice, some of them leave doctors very skeptical. If the doctor perceives the results of treatment as *too spectacular* or gets the implication that such results *always* occur, his reaction is definitely negative.

Another characteristic of the doctor that has meaning for advertising is his professional pride. Most physicians have a high degree of pride—both in their professionalism and in their profession. Consequently, the doctor's judgment of professional quality and integrity or lack thereof tend to be extended by him to all things associated with the object or situation being judged. This means that, to perhaps a much greater extent than in most other advertising, medical advertising partakes of the professional reputation of the publication. The reputation of a publication for integrity, accuracy, up-to-dateness and other positive qualities is crucial, as the physician typically does not separate his perception of ads from his judgment of the media in which they appear.

As a final generalization, I should like to call attention to the one which is most obvious and yet, perhaps,

NOW! A WATER AND ALCOHOL SOLUBLE LANOLIN PRODUCT

NIMCO BRAND ®

ETHOXYLAN

#50 and #100

for shampoos, anti-perspirants, hair and shaving preparations, pharmaceutical ointments

Manufacturers of aqueous and alcoholic cosmetic and pharmaceutical preparations have in Nimco ETHOXYLAN a specially modified lanolin derivative that offers the full emollient and skin-softening properties of natural lanolin without its greasy and sticky effects.

In addition, Nimco ETHOXYLAN is surface active, which ordinary lanolin is not, enhancing the foaming qualities of other materials. Odorless and of varying consistencies (depending on concentration), Nimco ETHOXYLAN forms crystal-clear solutions with water and aqueous alcohol mixtures.

Get the full story on these and other unique advantages of new Nimco ETHOXYLAN #50 and #100 – write for samples and data file and the assistance of our products application laboratory, if you wish.

N. I. MALMSTROM & CO.

America's Largest Processor of Wool Fat and Lanolin

147 Lombardy Street, Brooklyn 22, N. Y.

SALES AGENTS

COMMERCIAL CHEMICALS, INC.
211 Hertel Avenue,
Buffalo 7, N. Y.

R.I.T.A. CHEMICAL CORP.
612 N. Michigan Ave.,
Chicago 11, Ill.

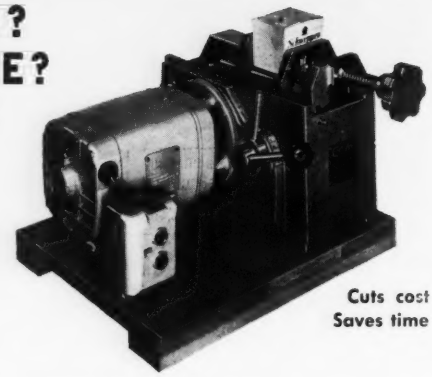
FULLER ASSOCIATES
616 St. Clair Ave., N.E.,
Cleveland 14, Ohio

R. E. FLATOW & CO.
10 Madison Street,
Oakland 7, Calif.

R. E. FLATOW & CO.
15 No. Euclid Ave.,
Pasadena 1, Calif.

"Codedge" ®
LABEL DATING AND CODING MACHINE
U. S. A. PAT. NO. 2643718, BRIT. PAT. NO. 669426, AND OTHER FOREIGN PATENTS

WHEN?
WHERE?
WHO?

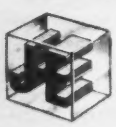


Cuts cost
Saves time

"CODEDGE" TELLS ALL ON LABELS, cartons, bags, etc. —any code information you need for production or sales control.

DOES IT FASTER—2000 labels per minute—with simple, low cost operation. For sample coded labels and full details write:

GRIFFIN - RUTGERS, INC.
DEPT. DC3, 41 EAST 42ND ST., NEW YORK 17, N. Y.
Sole U. S. Distributors



Distinctive Plastic Containers

J-E invites your inquiry on semi-rigid plastic packaging designed to give your product maximum sales appeal at the point of purchase.

J-E PLASTICS MFG. CORP.
555 WEST 23rd STREET, NEW YORK 11, N. Y.
OREGON 5-6789

most crucial of all. Physicians are human beings, most of whom have been raised in this country and subjected to its socializing influences and most of them have approximately normal visual perceptions and reactions. Including this point serves as a reminder that doctors in many ways react to ads in the same fashion as other people, and that most of the basic rules of good advertising apply. For example, doctors apparently react to color in medical advertising in about the same way as consumers in general react to color in general consumer advertising. For doctors, too, the attention-getting value of color is high. Supporting this point is the data from a group of 14 ads selected at random—7 having high readership scores and 7 having low readership scores. Of the best read ads, 6 of the 7 had color; of the poorest read ads only 2 of the 7 had color.

We may summarize by saying that understanding the needs, professional concerns and daily activities of physicians helps in comprehending the ways in which they react to medical advertising in general and journal advertising in particular. Such information provides helpful guides in evaluating ads and in predicting their appeal and effectiveness. Readership data tells us that ads should say what a product is all about, give a clear exposition of conditions and indications of the product's use, give information on the product's application and tell what results might be expected. It can also tell us that illustrations and color are helpful. But examination of the "whys" of these matters carries us further along the road toward having the kind of understanding of the person we we are appealing to that enables advertising creativity to operate most effectively.

GLASS COATINGS

(Continued from page 331)

annealing lehr in the same fashion that the waxes are applied. The use of some silicones is not objected to by the Food and Drug Administration, but there are still some that have not been cleared for use as coatings for food containers. Many conventional adhesives will not adhere to some of the silicone treated glass surfaces. Special adhesives can be used to keep the labels from falling off, but these adhesives do not work well in all types of labeling equipment.

Two of the newer silicones that show great promise are Dow Corning's 4141 and Union Carbide's X-520. The Dow-Corning 4141 affords very good surface protections, but is not easy to label and has not yet been cleared by the Food and Drug Administration. The Union Carbide X-520 affords good protection, has been cleared by the Food and Drug Administration, and labels fairly well although the coating is somewhat less permanent than most silicones. Silicones are also occasionally mentioned as coatings for the inside surfaces of bottles for the purpose of helping all of the

contents drain out. This will work for very fluid, watery products such as penicillin solutions, but will not work for products of heavier consistency, such as syrups, hand creams and catsup. The most recent product to appear as a protective coating for bottles is a low molecular weight polyethylene plastic. This provides a non-toxic film which protects the glass fairly well (though not as well as some of the silicones) and which takes labels reasonably well (although not as well as the waxes do). The effectiveness of the coating in protecting the glass surface from dangerous abrasion can be tested by subjecting the coated containers to a standardized abrasion followed by impact or pressure testing. The controlled abrasion can be applied by passing a sample of two dozen coated containers through a rolling trough that simulates both rolling abrasion and filling line impacts. The containers are then tested with an instrument applying a controlled impact to determine their impact strength. The results are compared to the results of a similar test run on a control group of uncoated containers to see what degree of protection the coating provided.

ORAL DIABETIC DRUGS

(*Continued from page 311*)

remaining pancreatic islet tissue. Attempts to confirm this hypothesis were not successful. Because the metabolic effects of orinase were different than those of insulin, *J. Moorhouse, R. M. Kark and D. D. Gelman* concluded: Orinase does not stimulate insulin excretion or exogenous insulin entering the peripheral circulation is not equivalent to endogenous insulin entering the portal circulation.

The administration of tolbutamide to man, dog, rat, rabbit, duck and chicken results in a rapid decrease in the blood sugar concentration and a relatively slow restitution to the initial concentration.

The prolonged hypoglycemia which occurs in the normal animal and man after tolbutamide is attributed by *I. A. Mirsky* to a decrease in the rate of destruction of the endogenous insulin which is discharged into the circulation.

The effect of Orinase on some of the reactions involved in the conversion of glucose by liver tissue has been studied by *M. Vaughan.* In agreement with the observations of several other investigators no effect on the activity of glucose-6-phosphatase in liver homogenate was demonstrated.

In studying the mechanism of the hypoglycemic action of tolbutamide (Orinase, 1-butyl-3-p-tolylsulfonylurea) experiments were designed by *W. L. Miller* to compare the abilities of rats to oxidize C^{14}_{6}-glucose (uniformly labeled) to $C^{14}O_2$ as influenced by oral Orinase (270 mgm.akgm.) or subcutaneous insulin (3 unitsakgm.). (*Continued on next page*)

Controlled Sifting for Better Quality!

With gravity sifting methods, there's danger of uneven dispersion . . . depending on the mix and its ingredients. When you use the high speed, centrifugal

abbé TURBO SIFTER

perfect dispersion of the ingredients is assured. Users with colored ingredients stress the greater uniformity of color that the Abbé Turbo Sifter gives them. This is true for *any* material and with any mesh.

This unique unit requires less than one-fourth the floor space of conventional units, but sifts 2 to 10 times as fast, depending on the product—with a clean, complete separation. Write for Bulletin No. 65.

Address Department 54

abbé ENGINEERING CO., 50 CHURCH ST. NEW YORK 7, N. Y.

Designers and Manufacturers of
Ball, Pebble and Jar Mills • Pulverizers • Cutters • Mixers

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LOCUST (INDIAN)
KARAYA (CAROB FLOUR)
TRAGACANTH

MENTHOL
(NATURAL CRYSTALS)
JAPAN WAX
QUINCE SEED

CASEIN
EGG ALBUMEN
BLOOD ALBUMEN

PAUL A. DUNKEL & CO., Inc.

EST. 1914
IMPORTERS AND EXPORTERS
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JERSEY CITY 6, N. J.
OLDFIELD 6-6400
N. Y.: WORTH 4-3341
CHICAGO: 320 W. OHIO ST.
TEL: SU. 7-2462

REPRESENTATIVES:
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BOSTON: P. A. HOUGHTON, INC.
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Huisking

PEDER DEVOLD
FINEST MEDICINAL
COD LIVER OIL U.S.P.
All potencies Vitamin Tested

P.D.

DEVOLKOD® VITAMIN OILS
(Fortified Cod Liver Oils for Veterinary Use)
DEVOLD VITAMIN A&D FEEDING OILS
DEVOLD VITAMIN A OILS
ABOVE OILS ARE "STABILIZED"
DEVOLDKOD NON-DEST. COD LIVER OIL U.S.P.
PEDER DEVOLD WHEAT GERM OIL
IMPORT EXPORT
PEDER DEVOLD OIL CO., DIV.
CLINTBROOK CHEMICAL CO., INC.

CHAS. L. HUISKING & CO., Inc.
215 FOURTH AVENUE, NEW YORK 3, N. Y.
Telephone: GRamercy 5-3900 Cables: HUISKING, NEW YORK
Since 1910

Products move faster in

Sales come easier, faster... when you package in *Tubes.* Any size, any style, any opening... but only *one* quality... *Standard!*

Look for "Standard" in your classified phone directory, under "Collapsible Tubes"

Standard
COLLAPSIBLE TUBE CO.
Rochester, Pa.

Both Orinase and injected insulin increased the rate of oxidation of C^{14}_{6}- glucose by nondiabetic rats.

Parenteral insulin stimulated the oxidation of glucose by severe alloxan diabetic rats while Orinase was without effect either alone or in the presence of injected insulin.

It is concluded that Orinase produces hypoglycemia mainly by its influence on pancreatic tissue capable of insulin synthesis to yield more insulin.

Orinase was absorbed from the stomach as well as the duodenum and was excreted in the urine probably as a conjugate different from the major human excretion product.

In an effort to determine the site of hypoglycemic action of sulfonylureas, normal dogs under Nembutal anesthesia were given dilute solutions of carbutamide and Orinase by *J. A. and A. R. Colwell* by constant injection in various locations.

Venous blood glucose increased up to the middle of the injection period, and then fell. Injections into the portal vein were followed by the greatest increases in blood glucose.

Subsequent hypoglycemia was greatest, on the average, after sodium Orinase perfusion through the pancreas; next greatest with sodium Orinase into the hepatic artery; still less with sodium Orinase into the femoral vein; and least with carbutamide into the pancreas.

This evidence speaks against a hepatic site of action and somewhat in favor of a pancreatic mechanism. Further, it indicates sodium Orinase to be a more effective hypoglycemic agent than carbutamide when given intrapancreatically to normal dogs.

Portal, hepatic and arterial glucose, phosphate and potassium were measured by *J. Ashmore et al.* in intact unanesthetized dogs following either the administration of glucose, or insulin or Orinase. The same degree of hypoglycemia was produced with both substances. Rats whose blood glucose had been tagged by the intravenous injection of glucose C^{14} showed a rapid fall in specific activity of blood glucose after insulin injection. The fall in specific activity of blood glucose after Orinase injection was the same as the controls.

Studies with isolated rat diaphragm muscle indicated that orinase did not increase glucose utilization by this tissue, nor did it potentiate the effect of insulin, when added at submaximum concentrations. Under the conditions tested, insulin and orinase appear to elicit different metabolic responses.

The study by *B. W. Volk et al.* concerns itself with certain aspects of the mechanism of action or orinase and carbutamide as well as the effect of orinase on the morphology of the rabbit pancreas.

In adrenalectomized dogs the administration of the sulfa derivatives caused exaggeration of the hypoglycemia. The hypoglycemic effect of exogenous glucagon in sulfa-treated humans and rabbits was compared with that obtained in untreated controls. No significant differences were observed. This makes the

suggested inhibition of glucagon action improbable.

Sulfa drug potentiation of insulin action through inhibition of enzymatic degradation of insulin was studied utilizing I^{131} labeled insulin. No significant differences between the degradation curves of sulfa-treated and of untreated rabbits were observed.

No morphologic alterations in the A cells or the exocrine portion of the pancreas were observed. B cell degranulation became, however, progressively more obvious. This degranulation is thought to signify increased insulin output by the pancreas under the influence of the drug.

The amount of insulin extractable from the pancreas at autopsy has been measured by *G. A. Wrenshall and J. D. Hamilton* in 90 male and 109 female diabetic subjects, using standardized procedures.

Practically all subjects of both sexes diagnosed diabetic before the twentieth year of life had very low levels. For diabetes diagnosed after this age range, the proportion of female subjects with very low levels of pancreatic insulin was small. Diabetic male subjects showed a progressive decrease with age at diagnosis and a progressive increase with duration of diabetes.

Orinase (tolbutamide) was ineffective in altering glucose utilization in eviscerate rats infused with glucose plus insulin or decreasing glucosuria in severely alloxan diabetic rats. This drug also did not potentiate insulin activity in severe alloxan diabetic rats which had previously been found unresponsive to Orinase alone. Acute experiments in hepatectomized dogs and rats with intact pancreatic blood circulation showed Orinase to be effective in lowering the blood sugars in animals without livers.

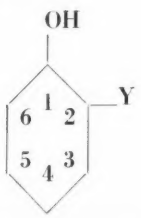
(To be concluded)

PATENTS THOUGHTS AND TRENDS

(Continued from page 341)

U.S. 2,777,002

Phenols and especially phenols having the following structural formula:



where Y is hydrogen or an ortho-para directing group such as the hydroxy group, an ether group such as the alkoxy and aryloxy groups, an alkyl group, an amino group, and mono- and di-substituted amino groups as well as organic groups containing amino, nitro, halo, and hydroxy groups; can be converted to the corresponding 4-halophenol in high yields by reacting at a temperature not exceeding about 50° C. said phenol with a sulfuryl

THE HOTEL NAPOLEON

40 AVENUE FRIEDLAND

PARIS (ETOILE)

Extends to all friends in the perfume industry a cordial welcome to make the Napoleon their headquarters whenever in Paris.

The Napoleon continues to be operated by the Klaguine family, for many years the owners and operators of the well known house of Charabot, Grasse, and you can be sure that you will receive special consideration at this modern, up-to-date and conveniently located hotel.

Mr. Ivan Makowsky, President Directeur General of the Napoleon, who has for years been connected with the Klaguine interests including Charabot in Grasse, will be pleased to hear from you and offers the hospitality of the hotel and the assistance of his staff.

(It is advisable to make your reservations well in advance)

CHARLES B. CHRYSTAL CBC MINERALS, CLAYS, COLORS 1897 NEW YORK

"UDAIPUR"

INDIAN

TALC

U.S.P.

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PLANT-WAREHOUSE: JERSEY CITY

METHYLANDROSTENEDIOL

A tissue building steroid, providing anabolic action of the androgens with minimum virilization.

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ESTRONE
ESTRADIOL
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CORTISONE ACETATE
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We Invite Your Inquiries
Standard Pharmacal Co.
OF CHICAGO
PRIVATE FORMULA MANUFACTURERS
M. F. Charley, President
847-853 W. JACKSON BLVD.
CHICAGO 7, ILL.

halide in the presence of a metallic halide such as commonly employed in Friedel-Crafts reactions.

U.S. 2,777,865

Saturated and unsaturated monohydroxy fatty acids are converted into corresponding dibasic and monobasic acids by fusion with caustic at temperatures above the melting point of the caustic.

U.S. 2,777,871

Carbamate esters have been prepared by reacting a bis-chloroformate of a dihydric alcohol, particularly a polyglycol, with a primary amine in the proportion of 2 moles of the amine per mole of the chloroformate, whereby both chloroformate groups of the chloroformate are reacted with the amine. The compounds thus produced have the structure

$$R_1\text{–}N\text{–}C\text{–}O\text{–}R_2\text{–}O\text{–}C\text{–}N\text{–}R_1$$

(H on each N; O on each C)

where R_1 is the radical of the primary amine R_1NH_2, and R_2 is the radical of a dihydric alcohol $R_2(OH)_2$.

U.S. 2,777,880

In the presence of suitable catalysts, aromatic carboxylic acids other than alpha-imino acids may be reacted with aldehydes and ketones to give substantial amounts of carbinols, or decompositions products thereof, such as dehydrogenation or dehydration products.

U.S. 2,778,853

The deamination of a beta-tertiary amino ketone having the general formula

$$R\text{–}CO\text{–}\underset{\displaystyle R'}{CH}\text{–}CH_2\text{–}NX \cdot Y$$

wherein R is selected from the group consisting of aliphatic, aromatic, and araliphatic radicals; R' is selected from the group consisting of hydrogen, aliphatic, aromatic, and araliphatical radicals; —NX is the residue of a secondary amine selected from the group consisting of dialkylamine and dialkylamines wherein the alkyl groups are linked to form a heterocyclic ring with the nitrogen atom, and Y is a salt forming acid selected from the group consisting of mineral acids and strong organic acids by hydrogenolysis over Raney nickel yielding a product having the general formula

$$R\text{–}CO\text{–}\underset{\displaystyle R'}{CH}\text{–}CH_3$$

wherein R and R' have the meaning assigned above.

U.S. 2,778,855

This deals with a process for producing a hy-

droxy ether which comprises reacting an epoxide compound having at least one hydrogen atom attached to each of the carbon atoms to which an epoxy oxygen atom is directly linked with an organic hydroxy compound of the group consisting of the alcohols and phenols in the presence of about 0.001 to 0.1 mole of perchloric acid per epoxide equivalent of the initial reaction mixture.

U.S. 2,778,857

This deals with a method for making a chloro-o-cresol having a chlorine atom in the 5-position of the molecule, involving the step of making 5-chloro-o-cresol by hydrolyzing 2-bromo-4-chlorotoluene by heating a liquid mixture of 2-bromo-4-chlorotoluene and a molecular excess of an aqueous alkali under a pressure at least as great as the autogenous pressure at a hydrolyzing temperature between 125° and 240° C.

U.S. 2,780,656

This deals with a process for preparing nitrobenzene consisting essentially in reacting benzene and a salt selected from the group consisting of copper nitrate and silver nitrate in the liquid phase at a temperature above 175° C.

U.S. 2,780,657

This deals with a process for preparing a nitrated aromatic compound which comprises heating an aryl carboxylic acid and a metal nitrate to a temperature above about 175° C.

RECENT PATENTS

2,768,187—**Ciba Pharm.—Process for Producing $\Delta^{8,9}$-7-Keto-11-Hydroxy Steroids.**

2,768,188—**Ciba Pharm.—Process for Producing $\Delta^{8,9}$-7, 11-Dihydroxy-Steroids.**

2,768,189—**Les Labs. (France)—Method of Producing α-Brominated Keto Steroid Compounds.**

2,768,190—**Am. Home Products—Prepn. of 3-Acetoxy-Δ^{16}-Allopregnen-20-One from Diacetyltomatidine.**

2,768,191—**Les Labs. (France)—Process of Producing Cortisone and Its Esters.**

2,768,197—**Chauny et Cirey (France)—Diacid Esters of Glycols and Glycolurethanes and Process of Making the Same.**

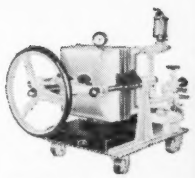
2,768,198—**Hoffmann-La Roche—Novel Ester of Bixins with Higher Alcohols and Process for the Manufacture Thereof.**

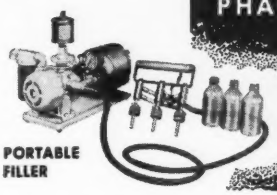
2,768,202—**Hoffmann-La Roche — Glycinamide Derivatives.**

2,768,207—**Bristol Labs.—Unitray Process for the Production of 2 - Benzylphenyl β - Dimethylaminoethyl Ether Dihydrogen Citrate.**

2,768,210—**G. D. Searle—α-β-Bis(Hydroxyphenyl) Alkanones and Methods for their Production.**

2,768,928—**Olin Mathieson — Microbiological Oxidation to Lactones.**


EFS-B FILTER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For FILTERING and FILLING
small plant or batch lots of
PHARMACEUTICALS, COSMETICS, CHEMICALS, FOODS, DRUGS, SOAPS, ETC.

Two Ertel units that make small production efficient. They have all the desirable features of Ertel high production equipment: EFS-B FILTER has single hand wheel for simple trouble-free operation, bronze or stainless circulatory system, accommodates accepted Ertel Asbestos Filter Sheets. PORTABLE FILLER has automatic overflow system, non-drip spouts, bottle size flexibility up to gallons. And, both units can be easily moved from place to place. Write for detailed information on this important equipment . . . it belongs in your plant.

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Branch Office & Showroom Located in New York City
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Specialists in analysis of Drugs, Cosmetics Essential Oils.
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Projects, Consultation, and Production Control Services in Biochemistry, Chemistry, Bacteriology, Toxicology—Insecticide Testing and Screening.
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TOXICOLOGY — STERILITY TESTS

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Founded 1922
RESEARCH
ANALYSES • CONSULTATION
Biological, Nutritional, Toxicological Studies for the Food, Drug and Allied Industries
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